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CURRENT STATE OF THE ART
 LONG-AREA MACRO-ELECTRONICS MATERIALS AND APPLICATIONS

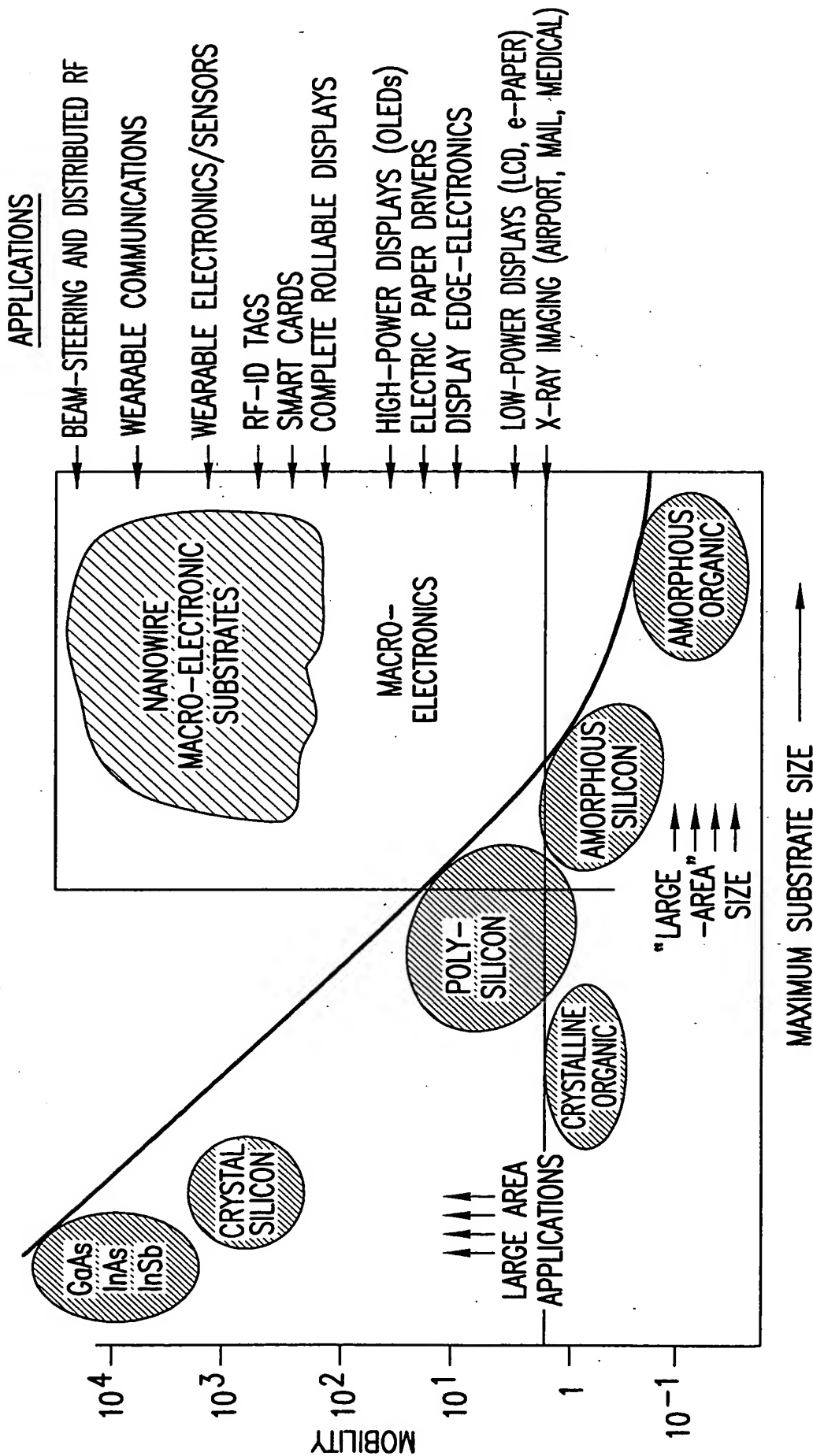


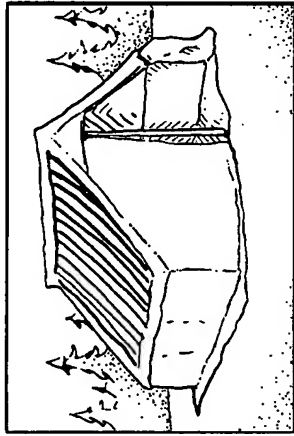
FIG.1

ELECTRONIC FABRICS



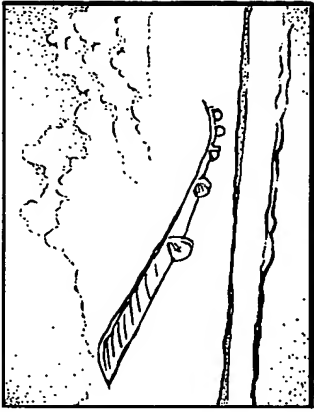
WEARABLE ELECTRONICS,
 SENSORS AND
 COMMUNICATIONS

BEAM-STEERING ARRAYS



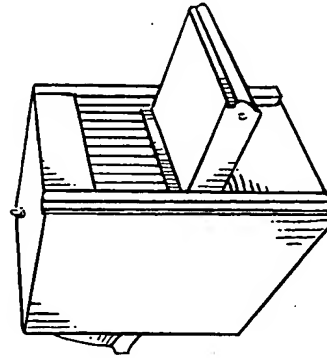
PORTABLE, LOW-PROFILE, STEERABLE
 COMMUNICATIONS ARRAYS

FREE-SPACE ELECTRONICS



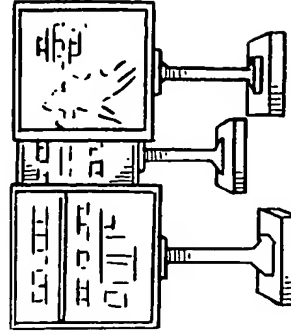
LIGHT-WEIGHT, FLEXIBLE ELECTRONICS
 AND COMMUNICATIONS FOR SPACE-
 AND MASS-CONSTRAINED APPLICATIONS

X-RAY IMAGERS



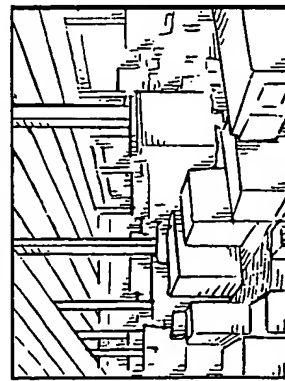
PORTABLE, LIGHT-WEIGHT, LOW-COST
 SECURITY APPLICATIONS

ELECTRIC PAPER



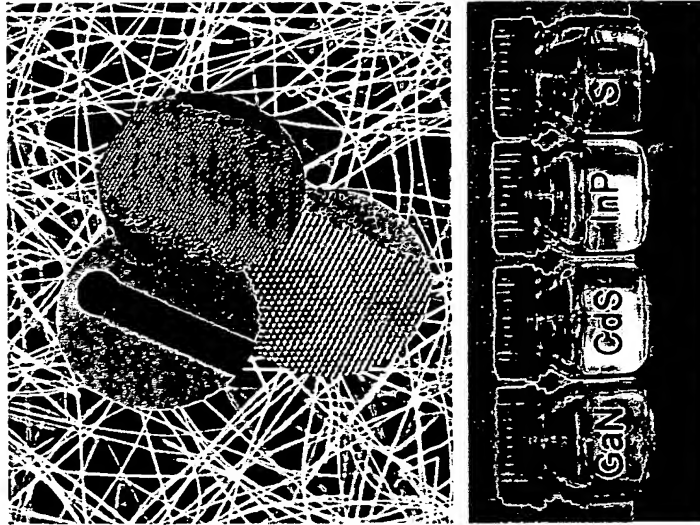
LIGHT-WEIGHT, PORTABLE, LOW-
 PACKING-VOLUME DISPLAYS

RF-ID TAGS



INVENTORY CONTROL AND
 MUNITIONS MANAGEMENT

FIG. 2



I-I GROUP	III-V GROUP BINARY	III-V GROUP TERNAR	II-VI GROUP BINARY	IV-V GROUP BINARY
Si	GaN	$Ga(A_{(-x)}P_x)$	ZnS	PbSe
G	Ga	$In(A_{(-x)}P_x)$	ZnSe	PbTe
$Si_{(-x)}G_x$	GaAs	$(G_{(-x)}In_x)$	CdS	
	InP	$(G_{(-x)}In_x)A$	CdSe	
	InAs	$(Ga_{(-x)}In_x)$	Cd	
	InSb	$(A_{(-x)}P_x)$	$(S_{(-x)}Se_x)$	

FIG.3

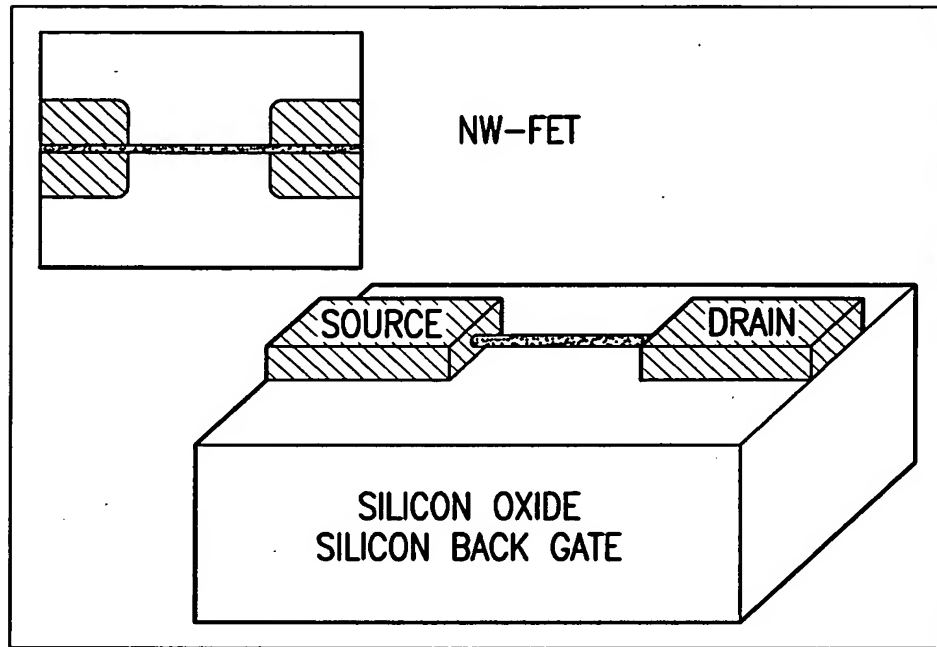


FIG.4A

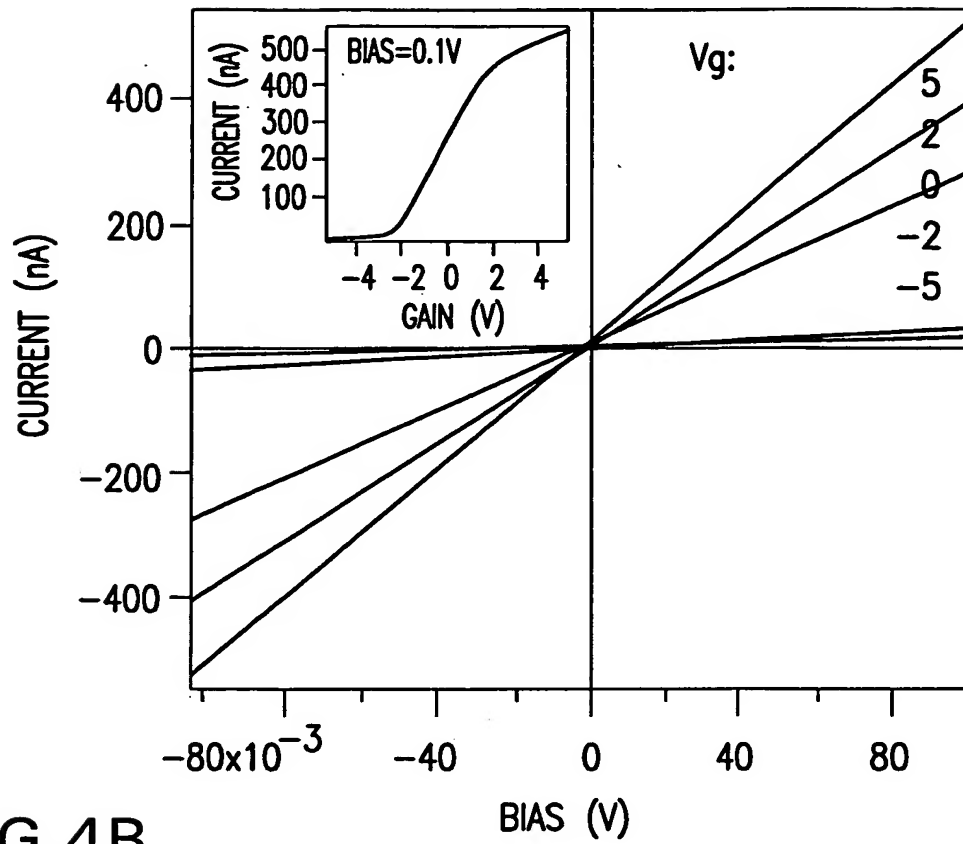


FIG. 4B

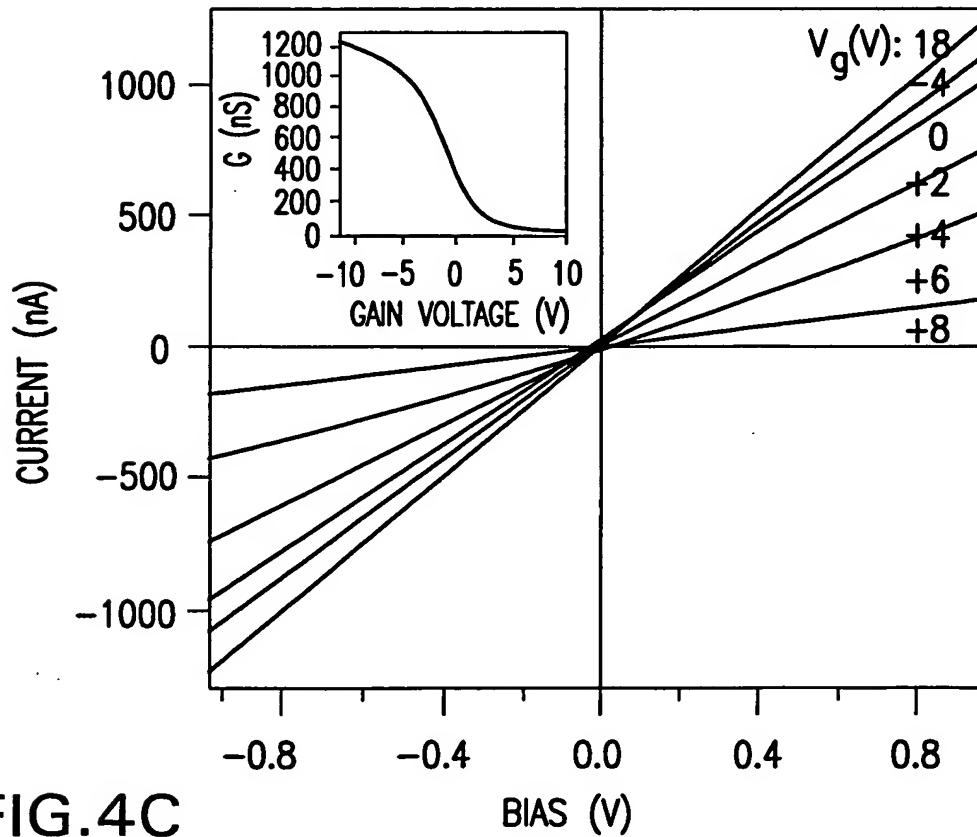


FIG. 4C

α -Si TECHNOLOGY

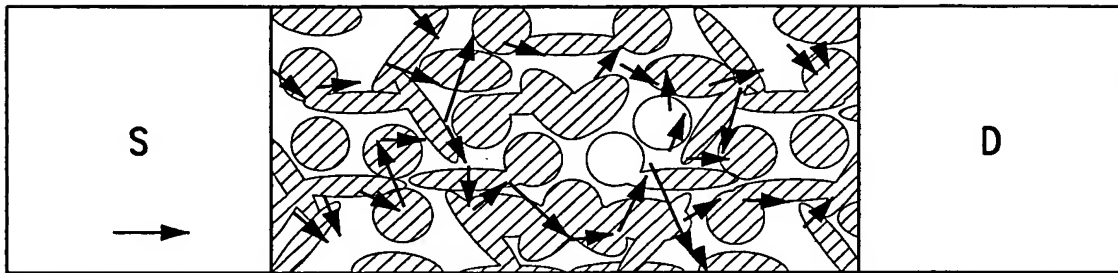


FIG.5A

poly-si TECHNOLOGY

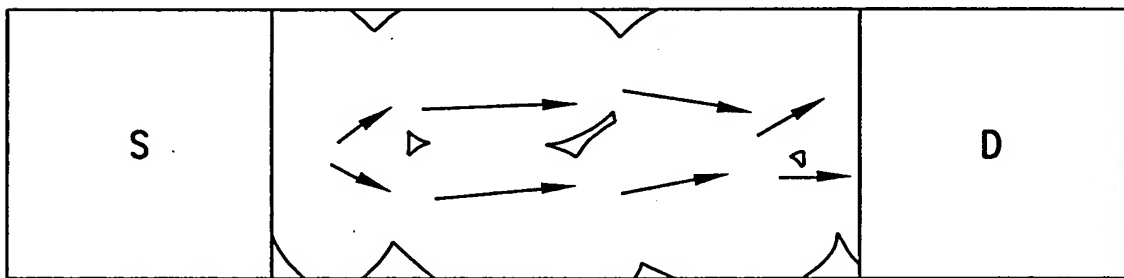


FIG.5B

Si TECHNOLOGY

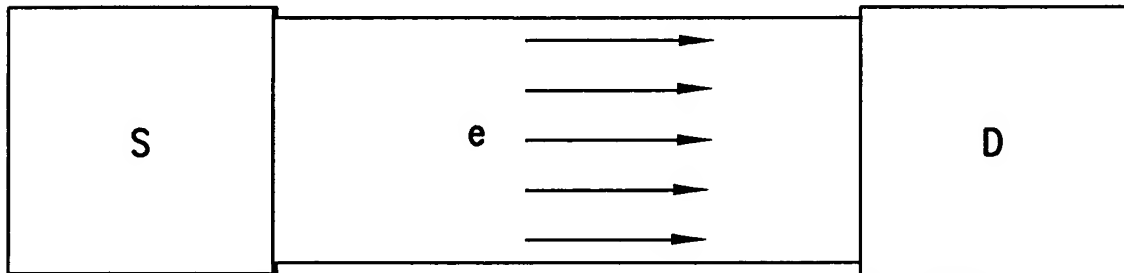


FIG.5C

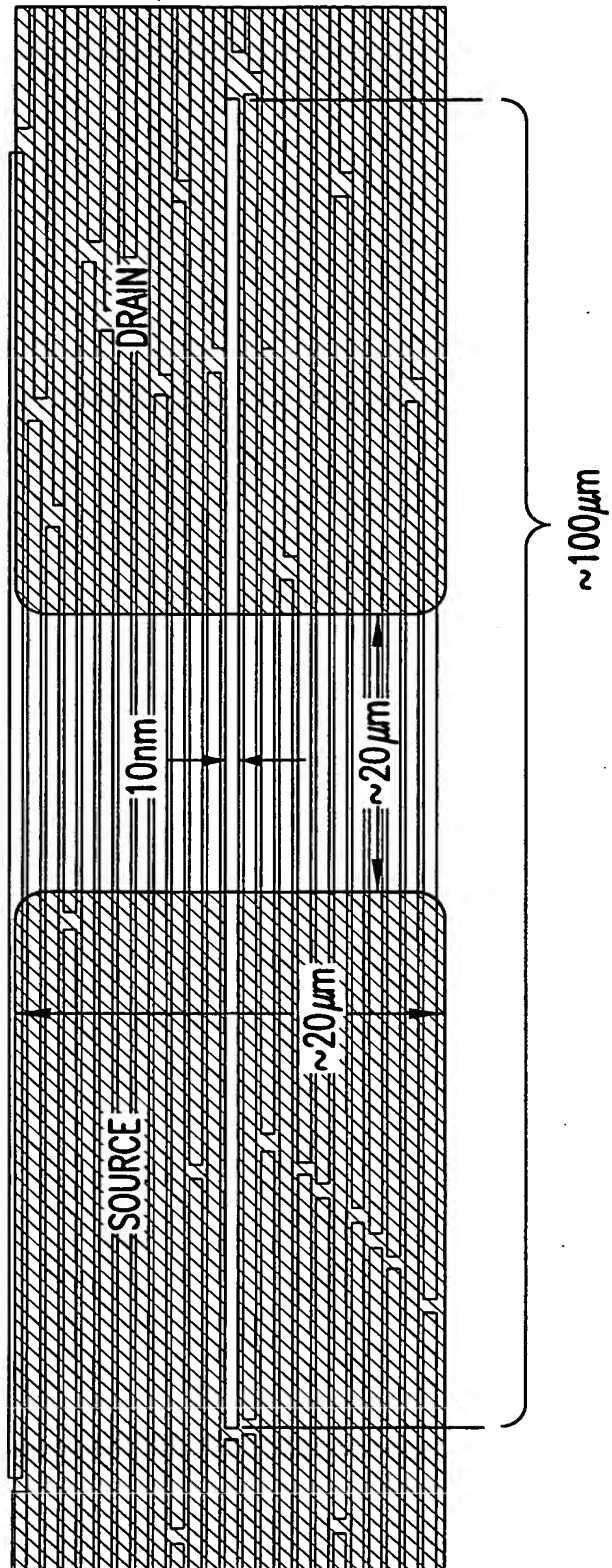


FIG. 6

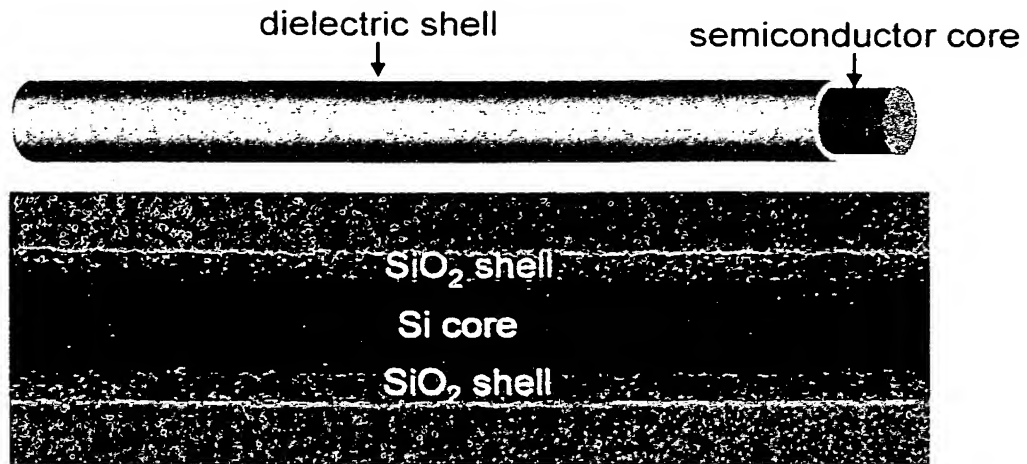


FIG.7

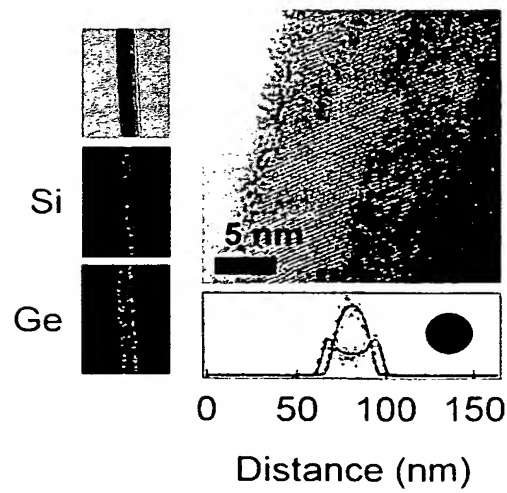


FIG.8



FIG.9

1000

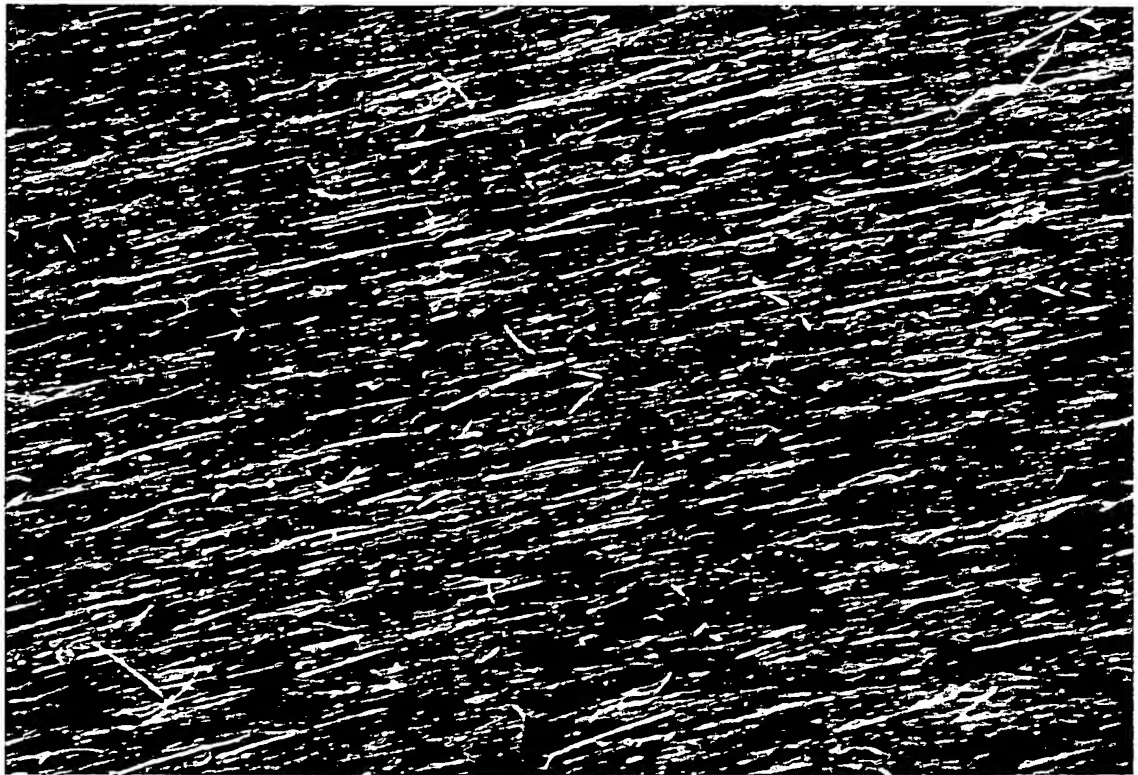


FIG.10

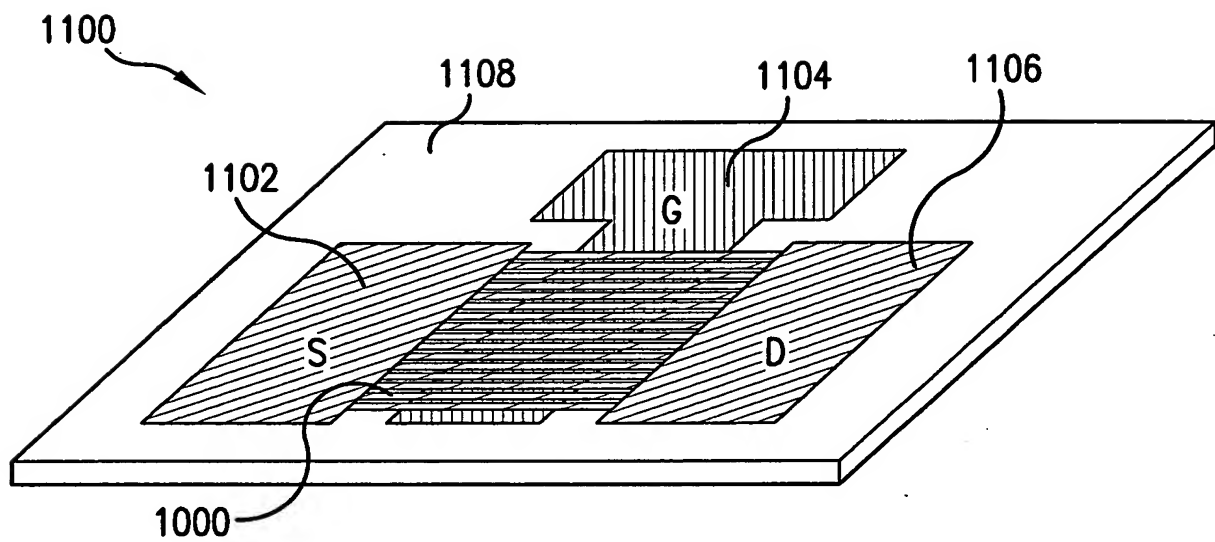


FIG. 11

1200

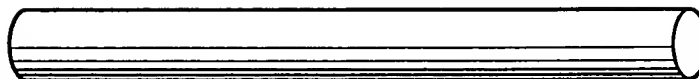


FIG. 12A

1210

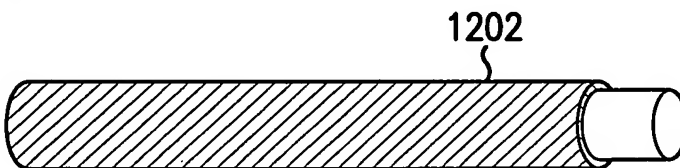


FIG. 12B

1220

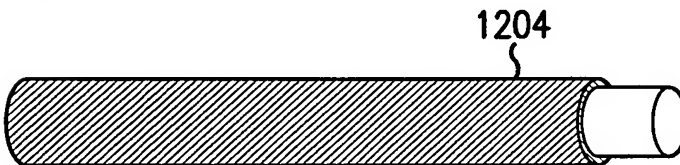


FIG. 12C

1230

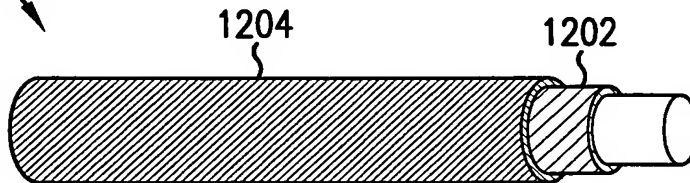


FIG. 12D

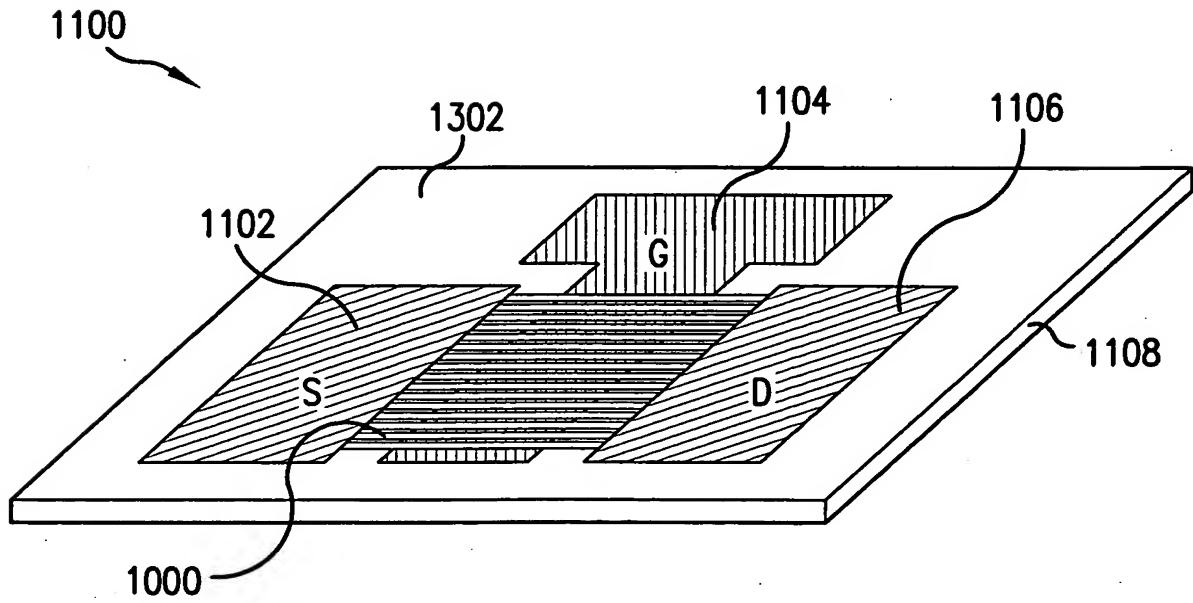


FIG. 13A

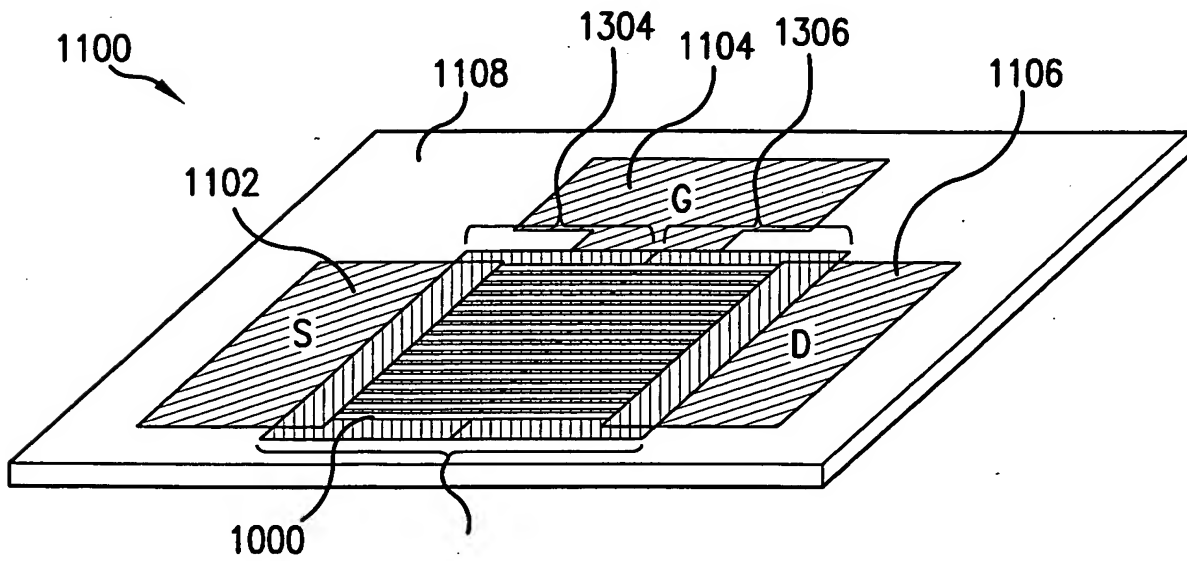


FIG. 13B

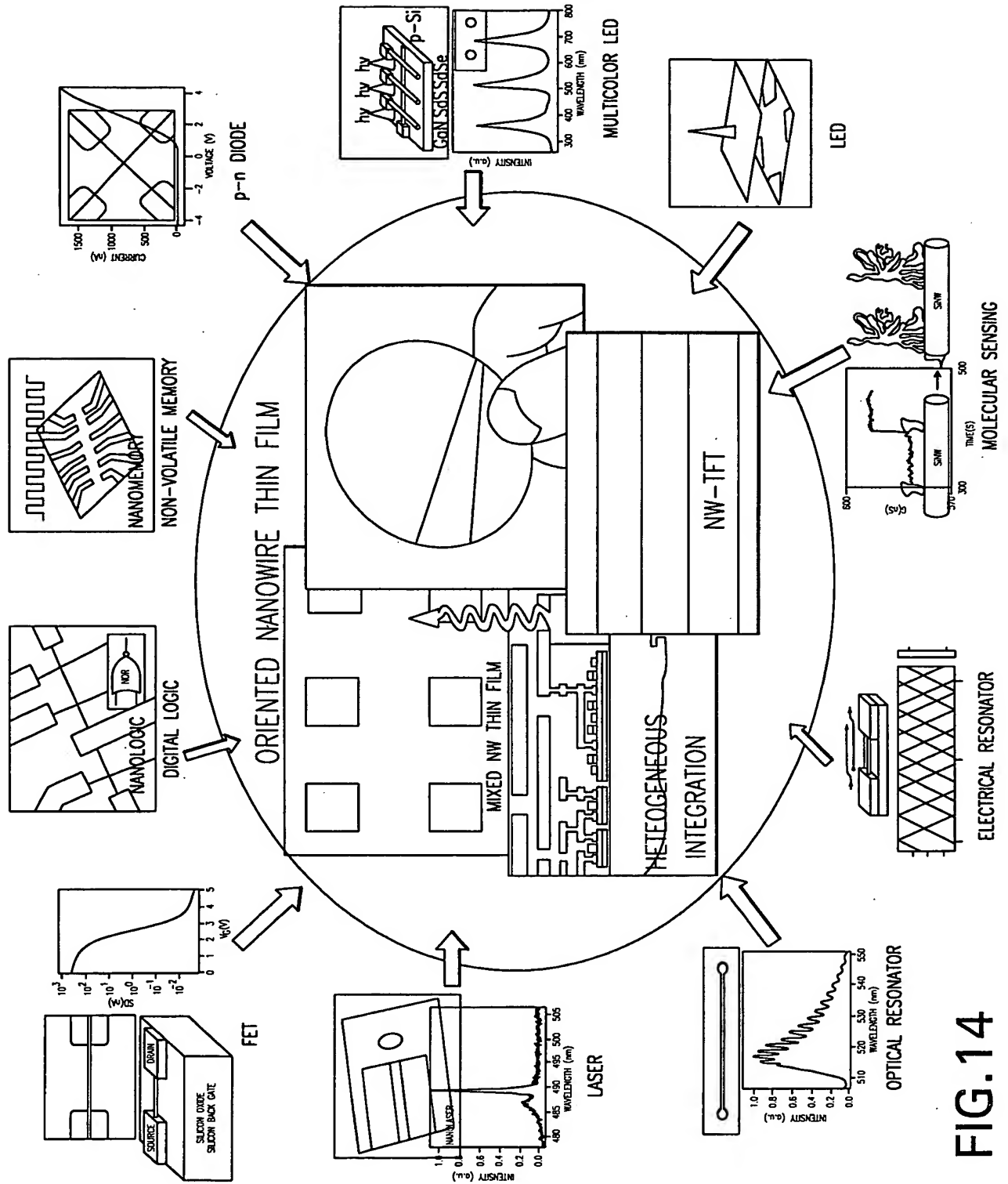


FIG.14

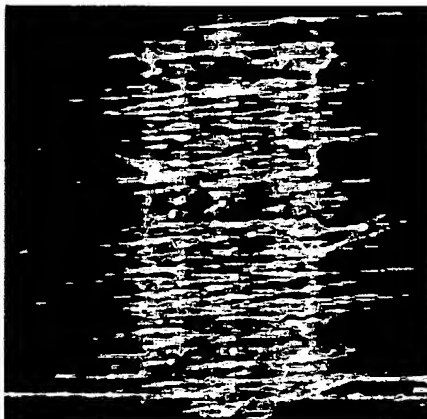


FIG. 15A

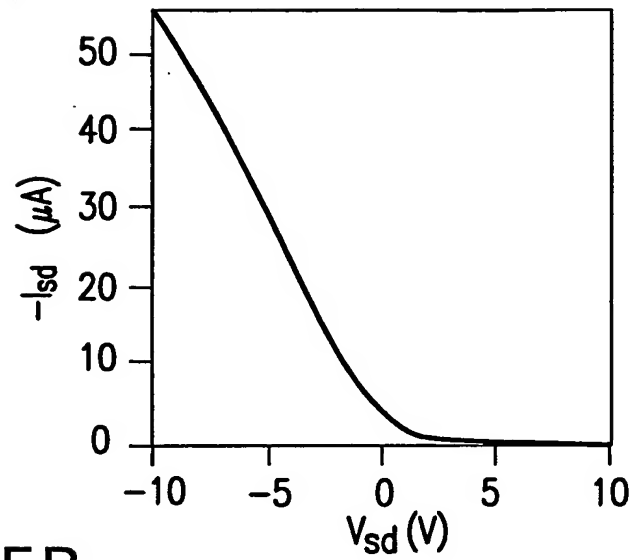


FIG.15B

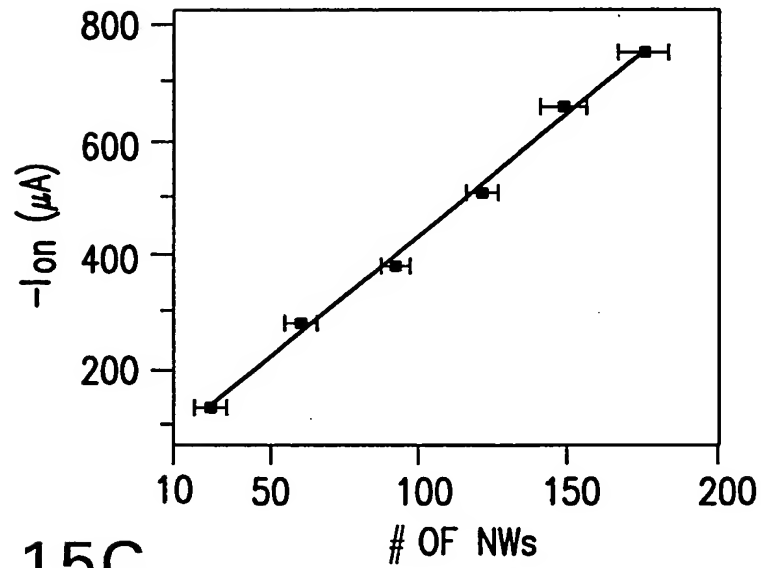


FIG.15C

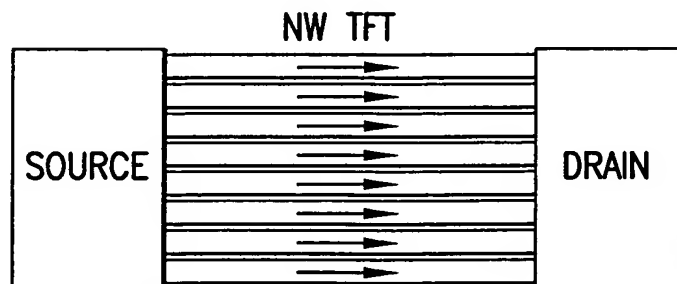


FIG.16

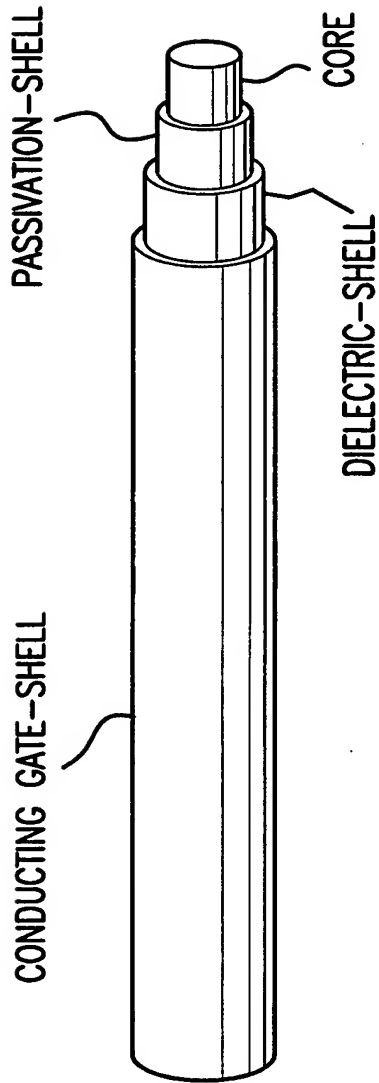


FIG.17

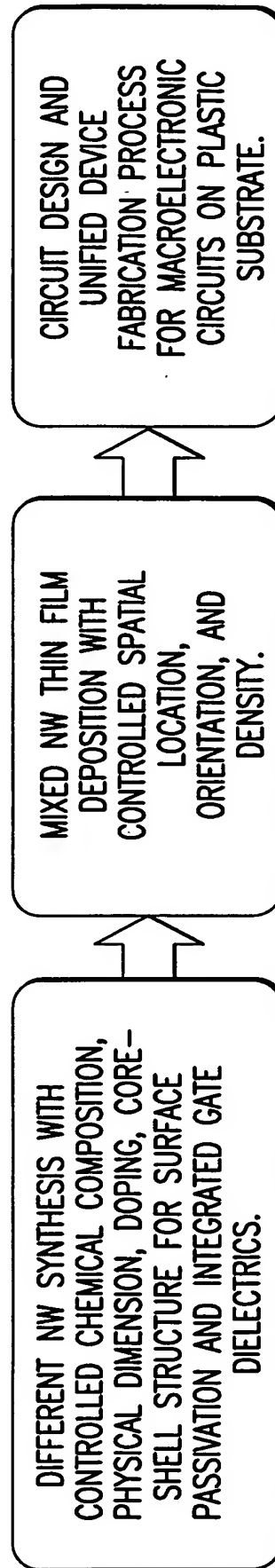


FIG.18

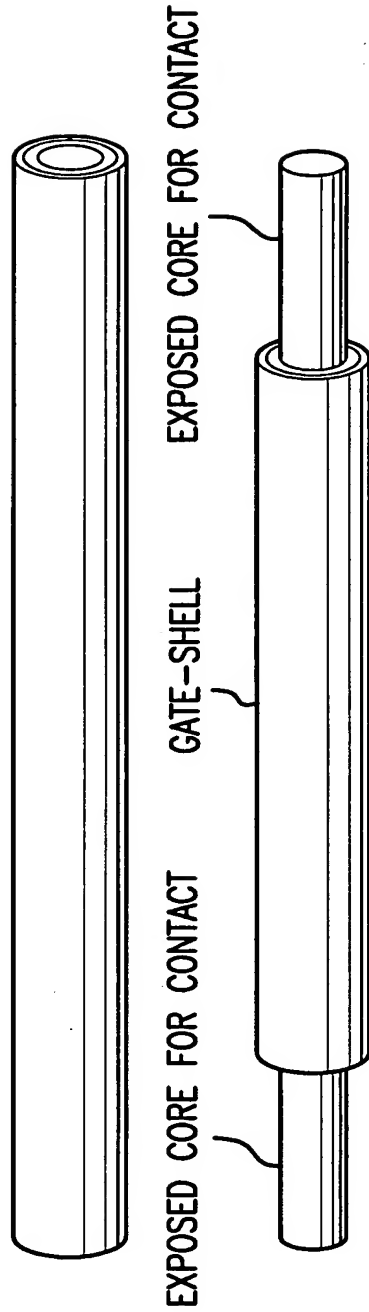


FIG. 19

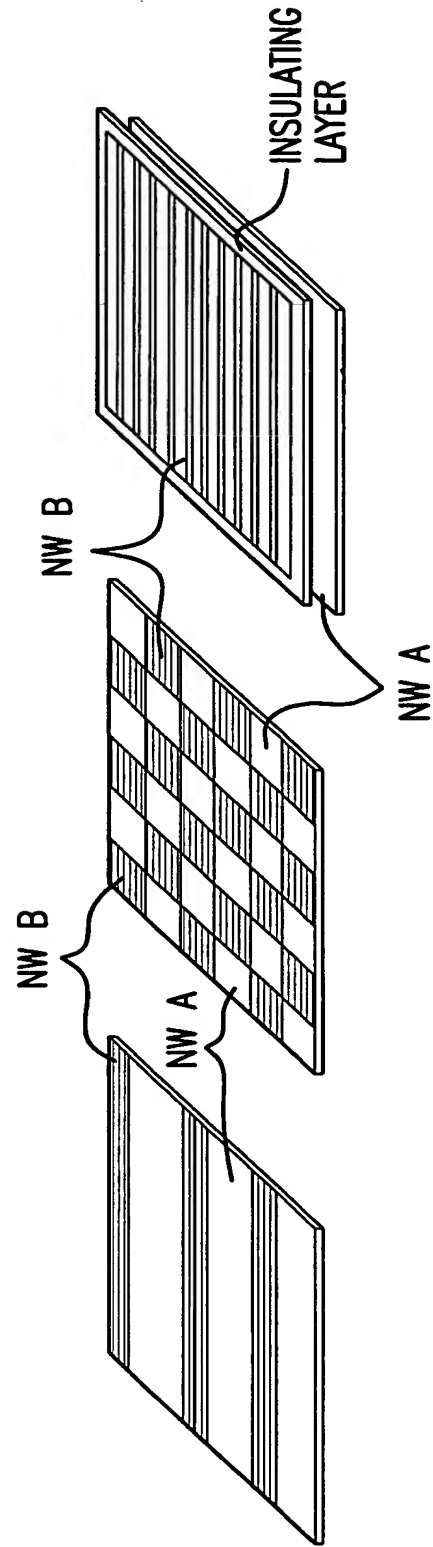


FIG. 20

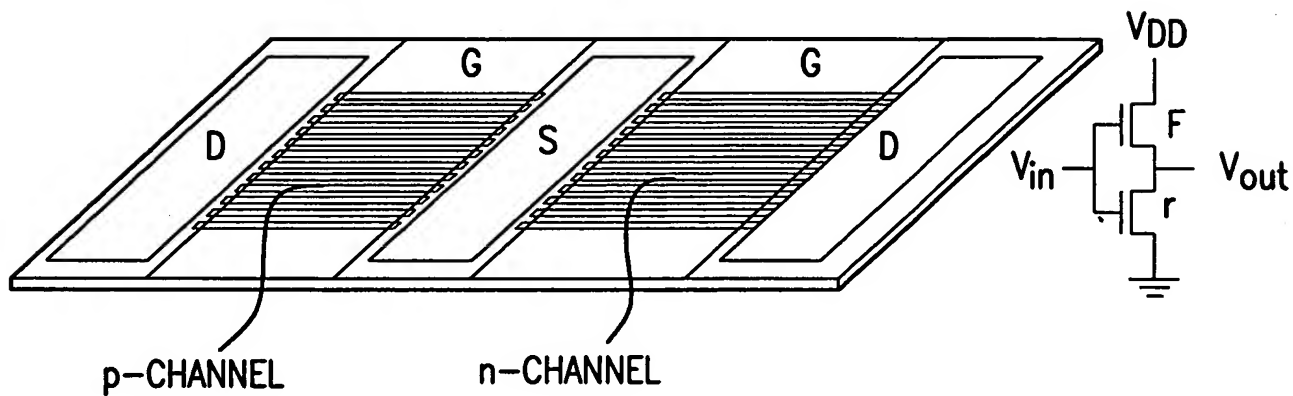


FIG. 21

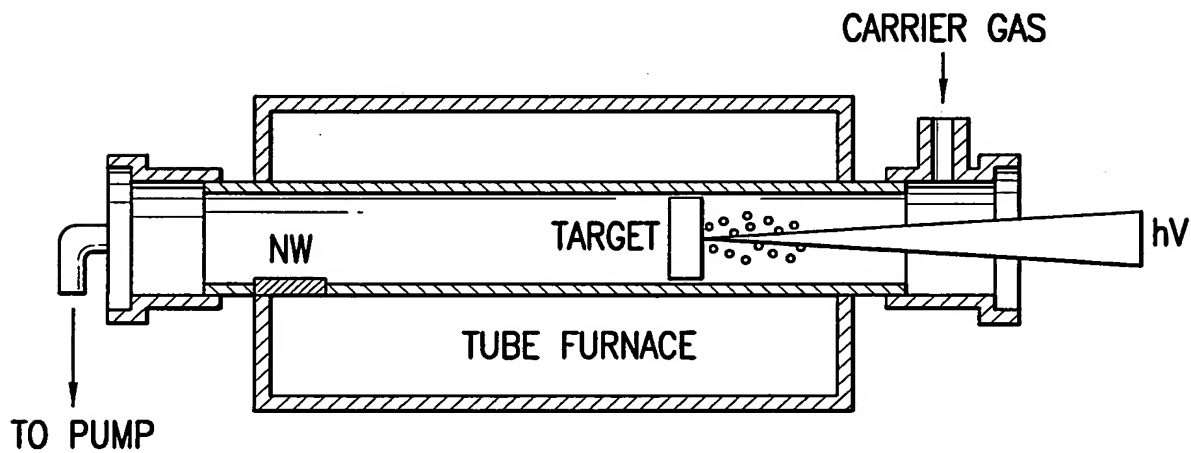


FIG. 22

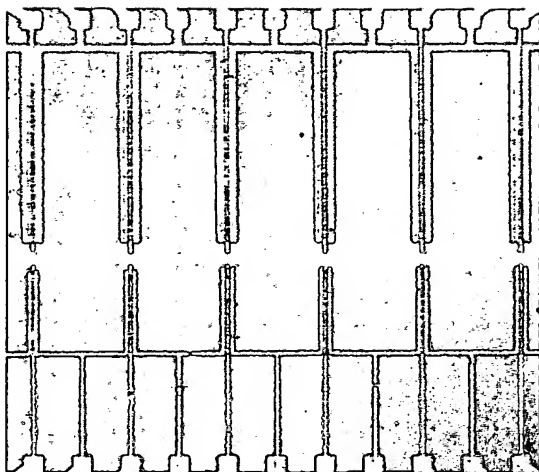


FIG. 23A

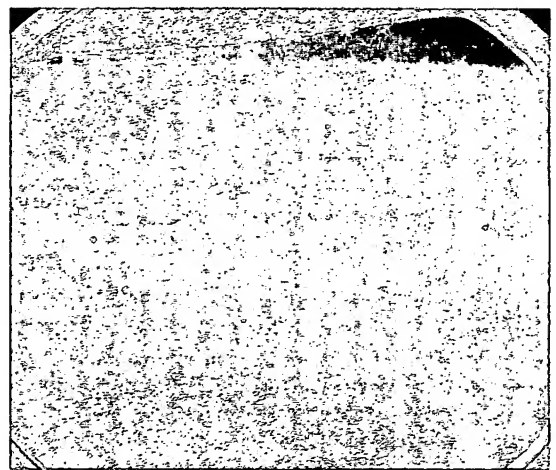


FIG. 23B

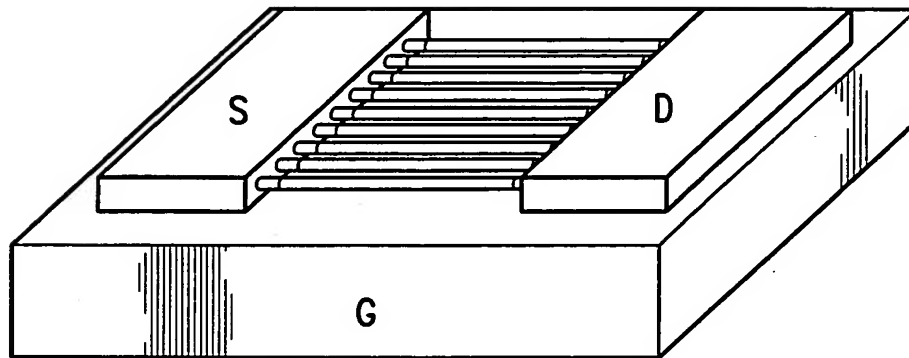


FIG. 24

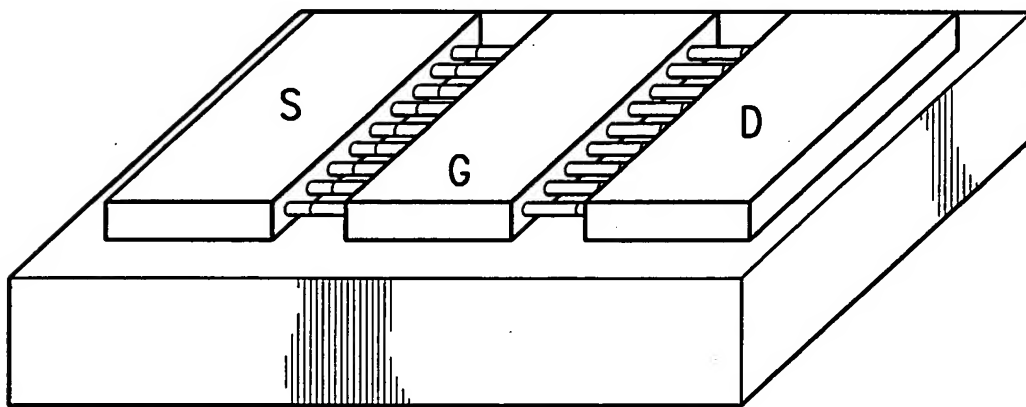


FIG. 25

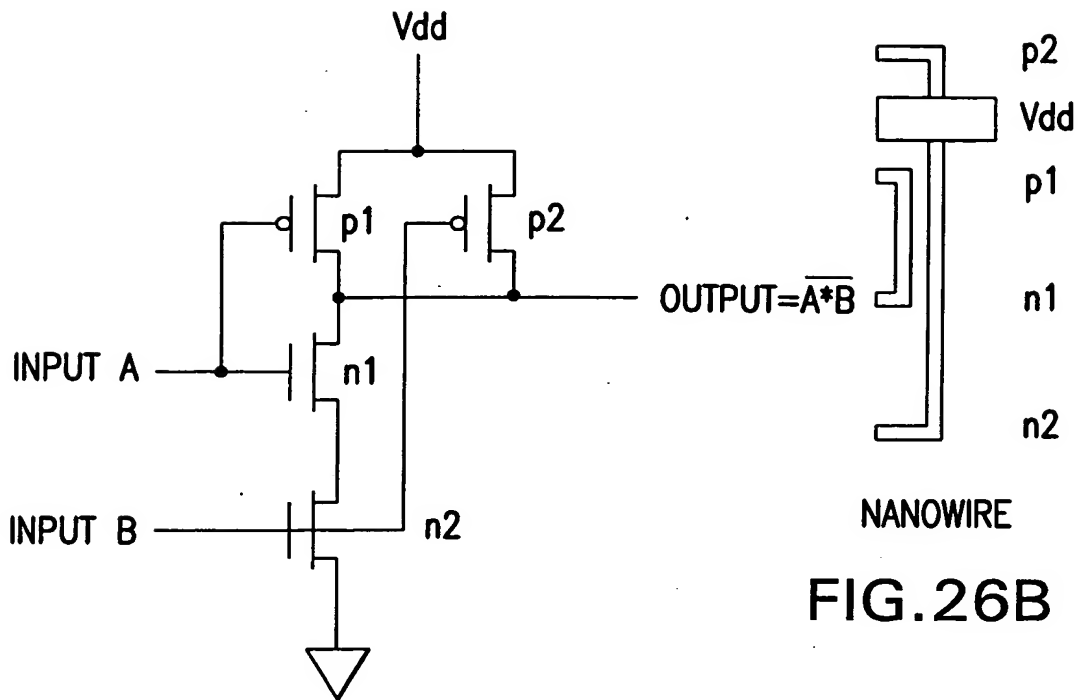


FIG.26A

FIG.26B

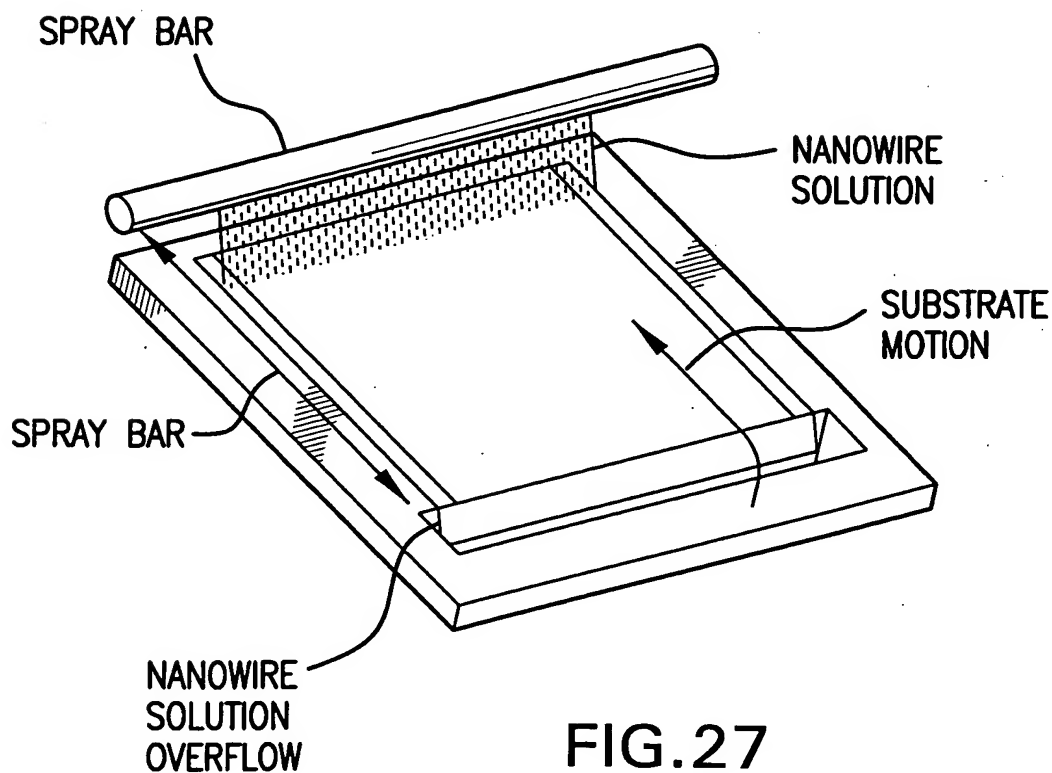


FIG.27

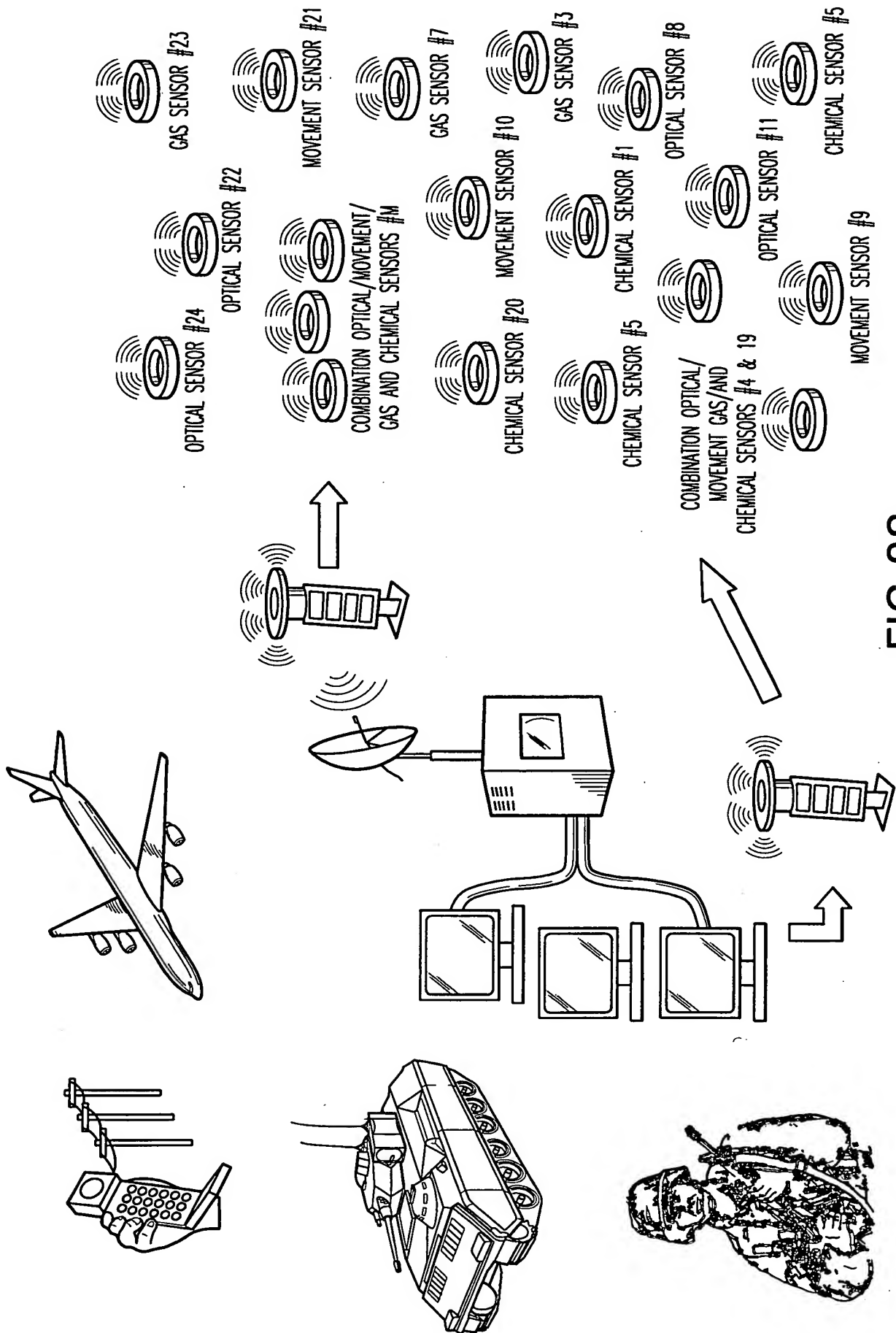


FIG. 28

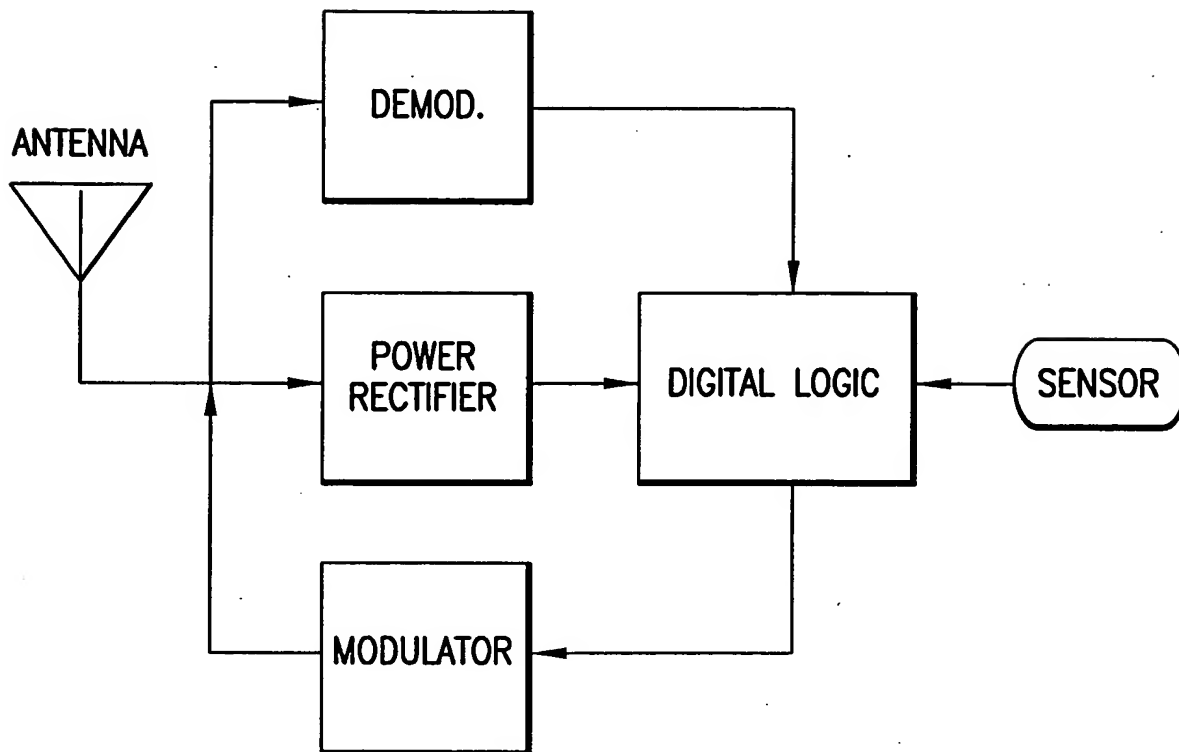


FIG. 29

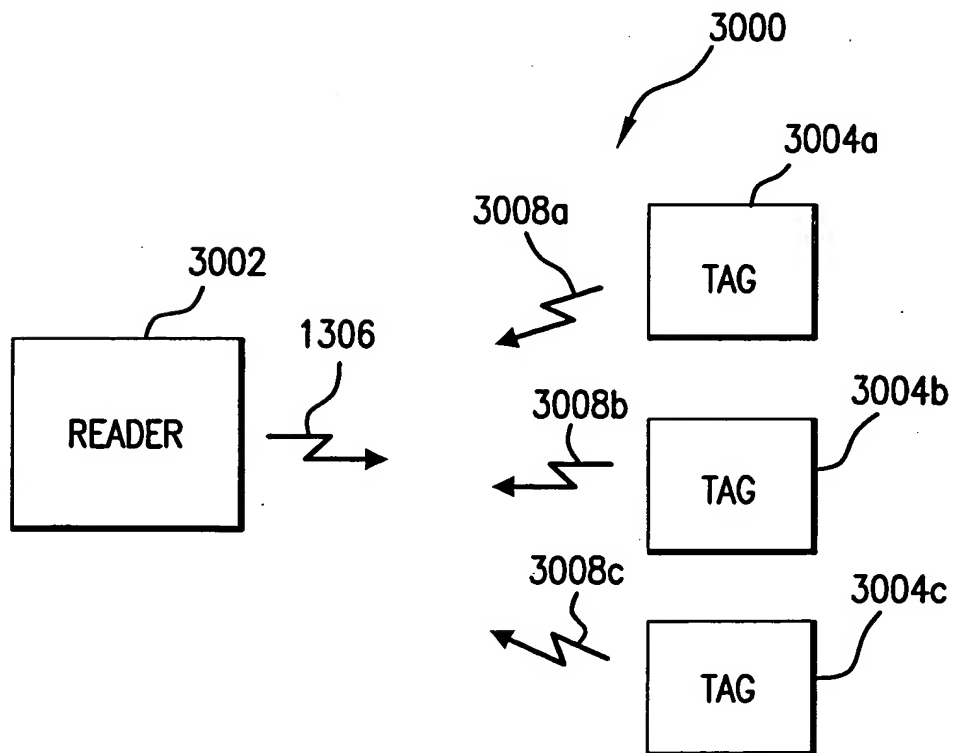


FIG. 30

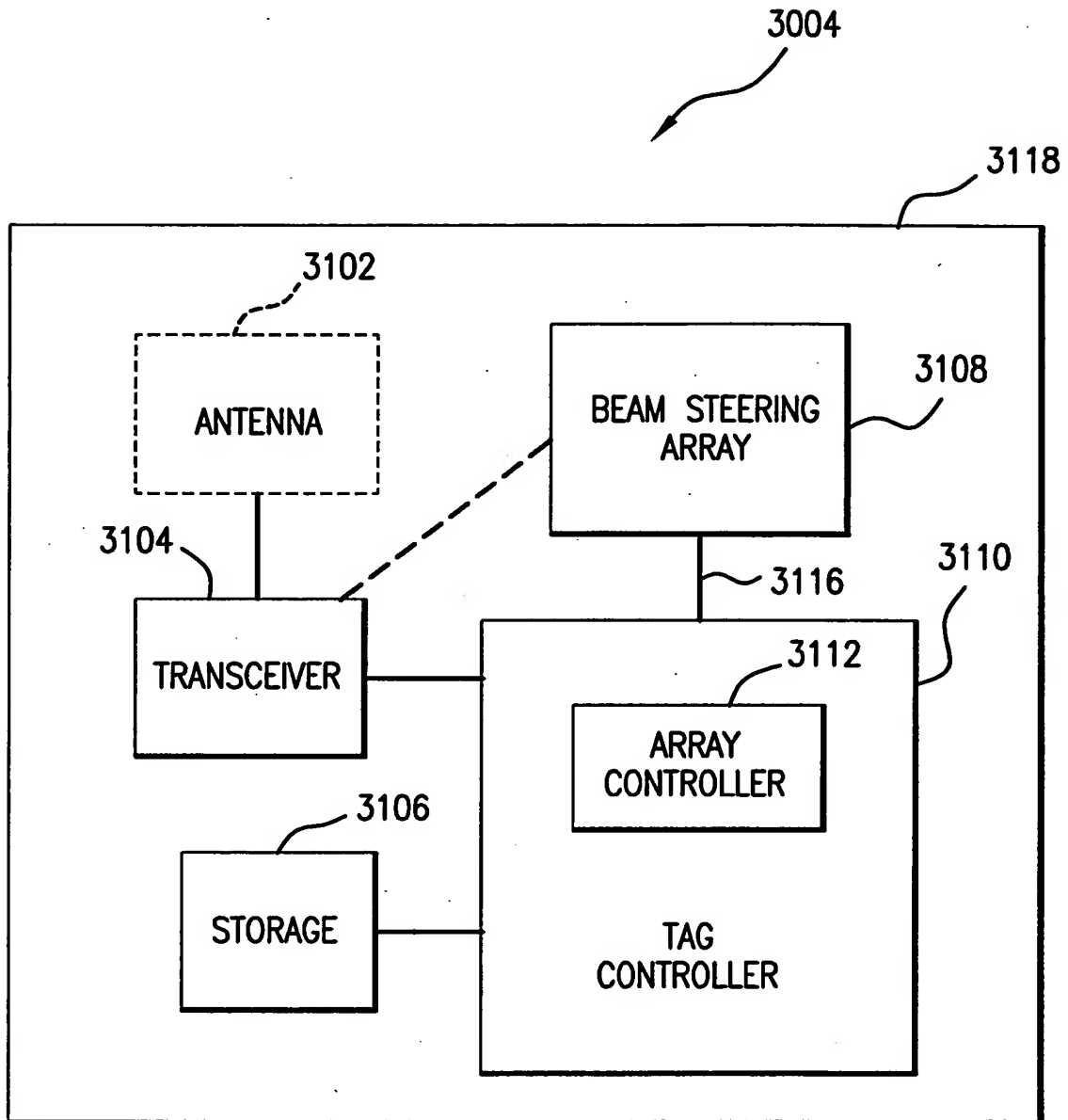


FIG.31A

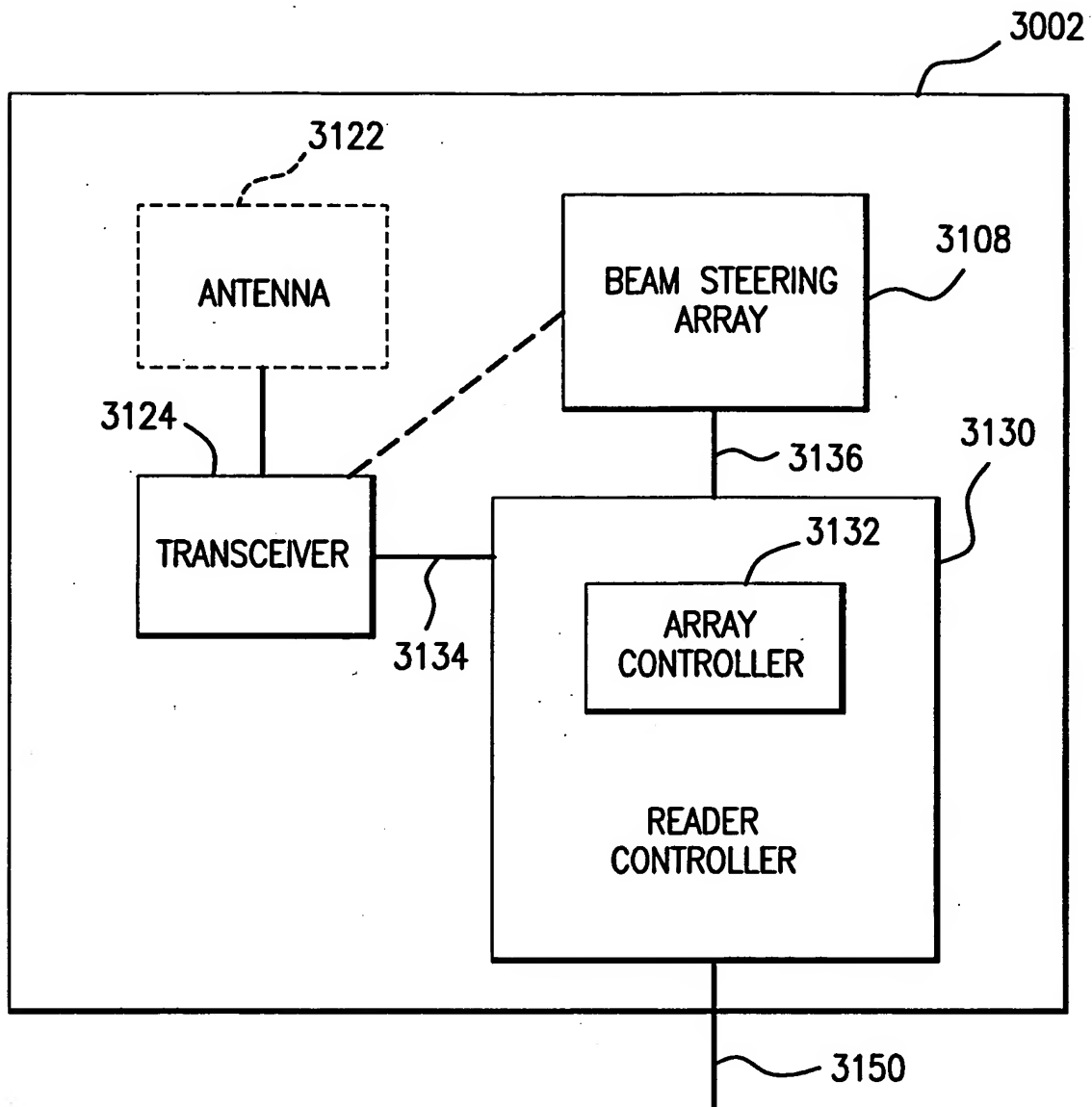


FIG.31B

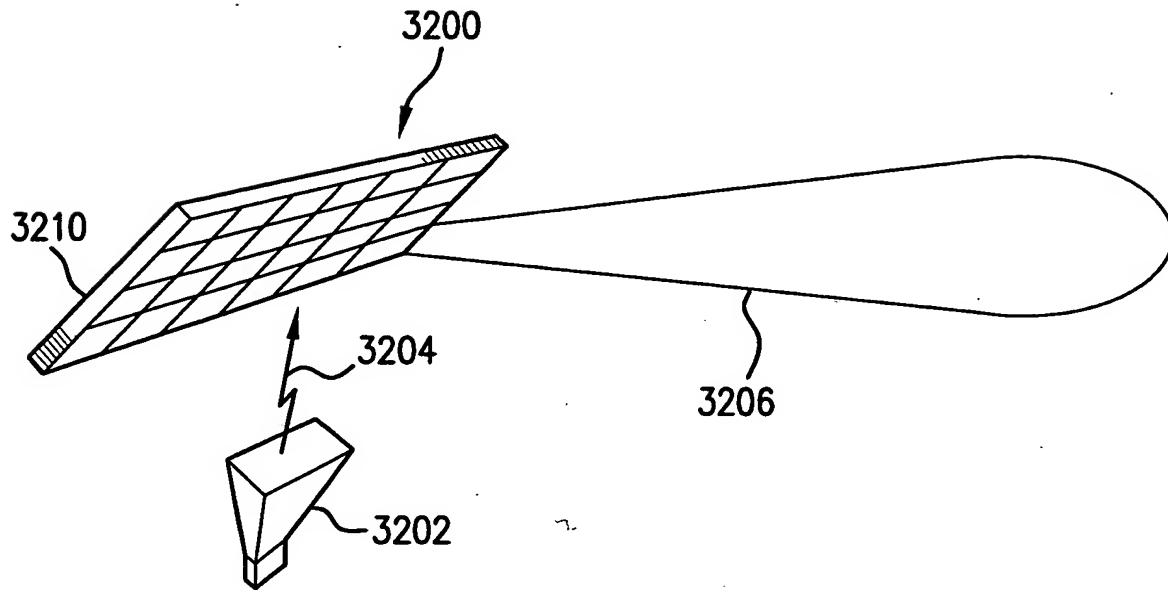


FIG. 32

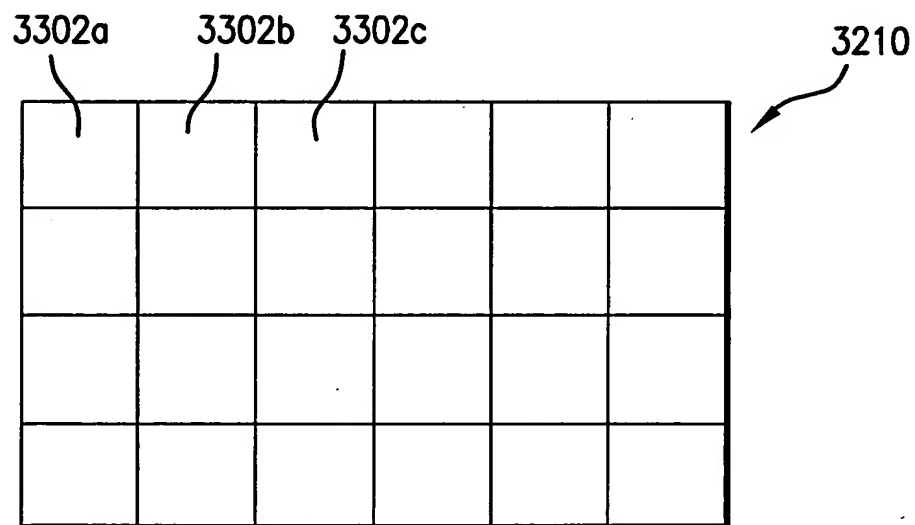


FIG. 33

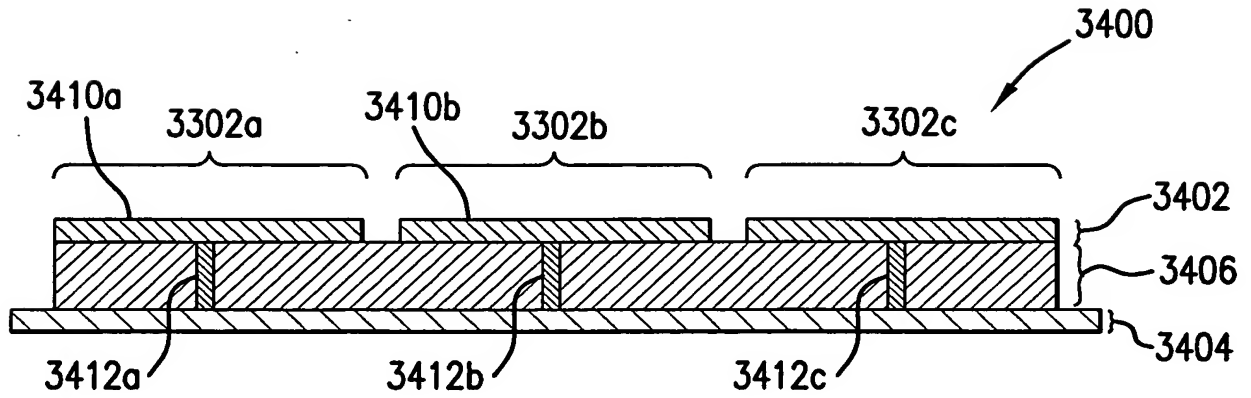


FIG.34

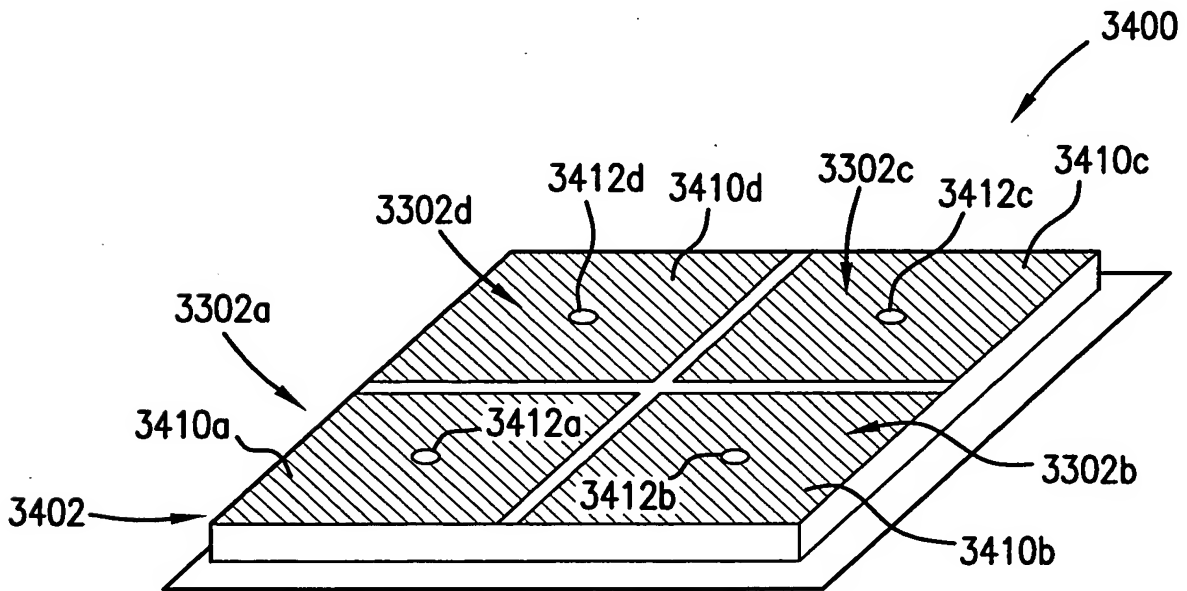


FIG.35

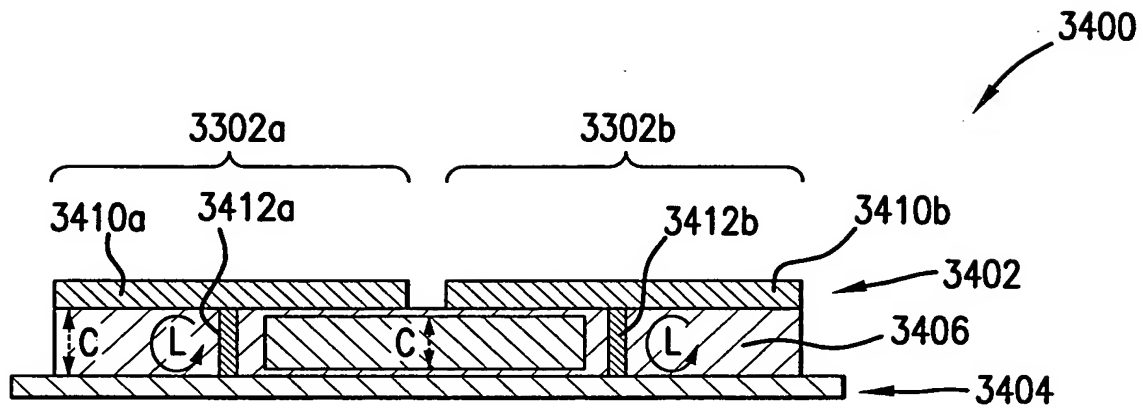


FIG.36

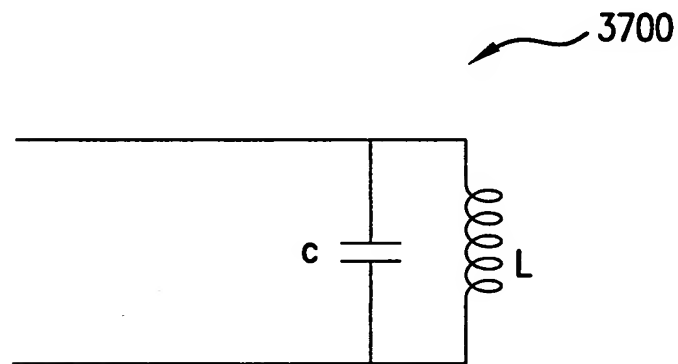


FIG.37

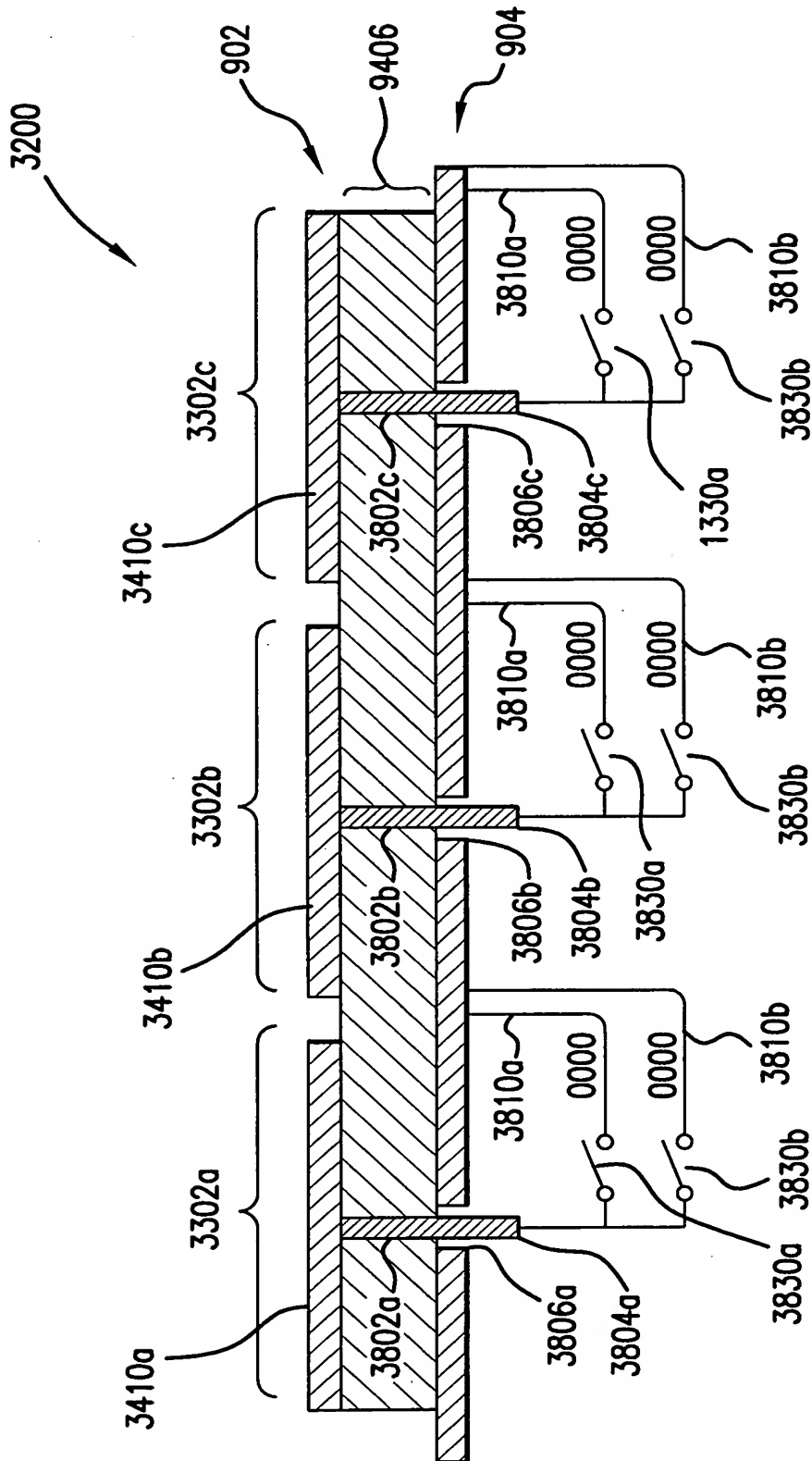


FIG. 38

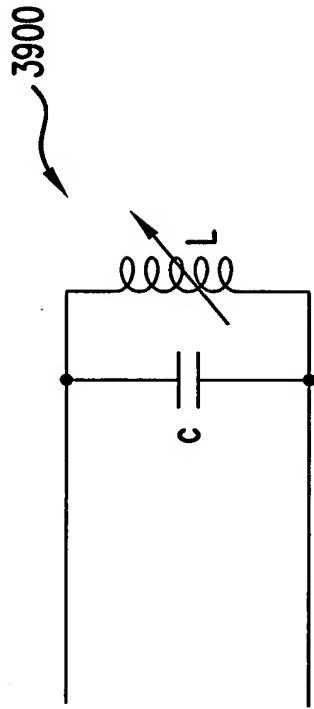


FIG. 39

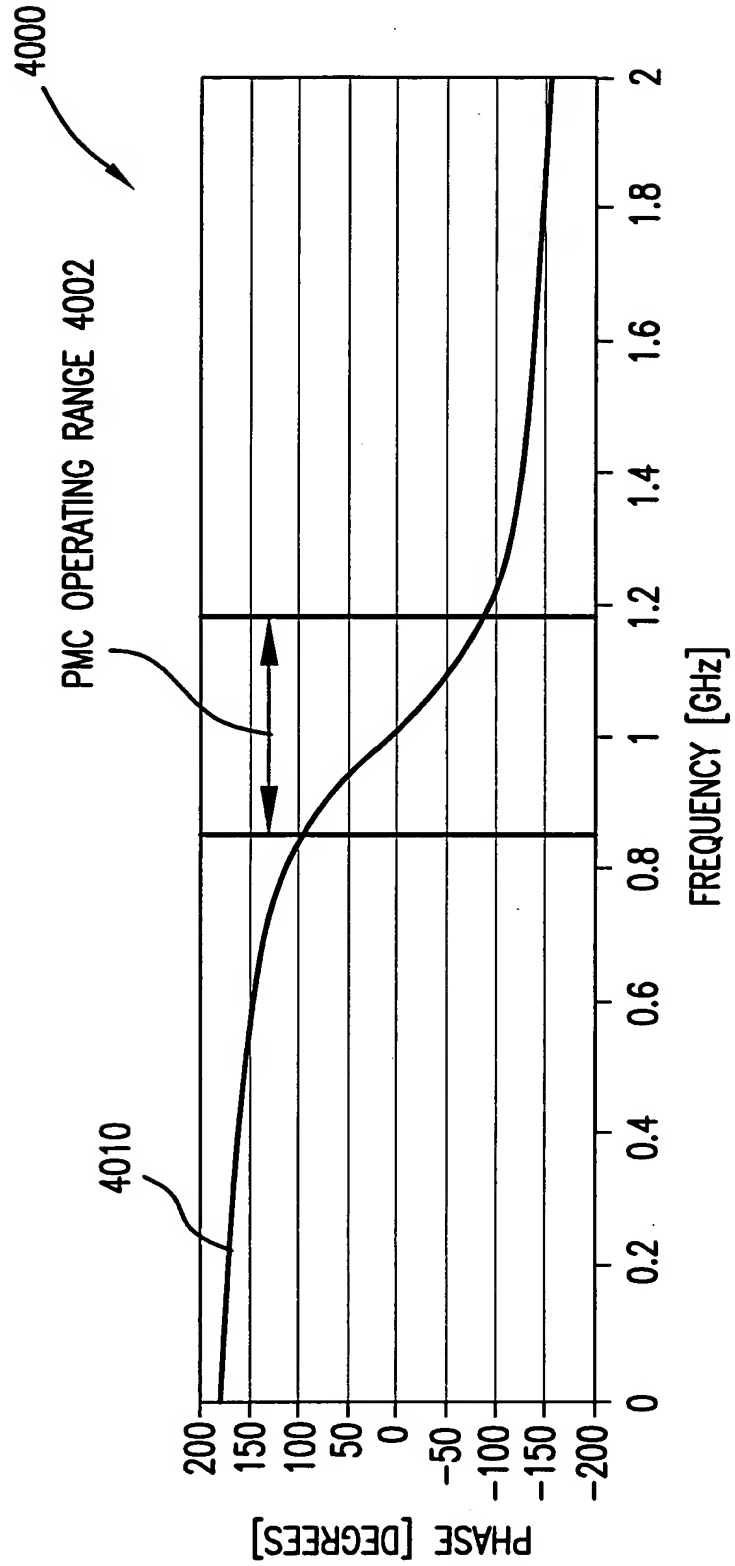


FIG. 40

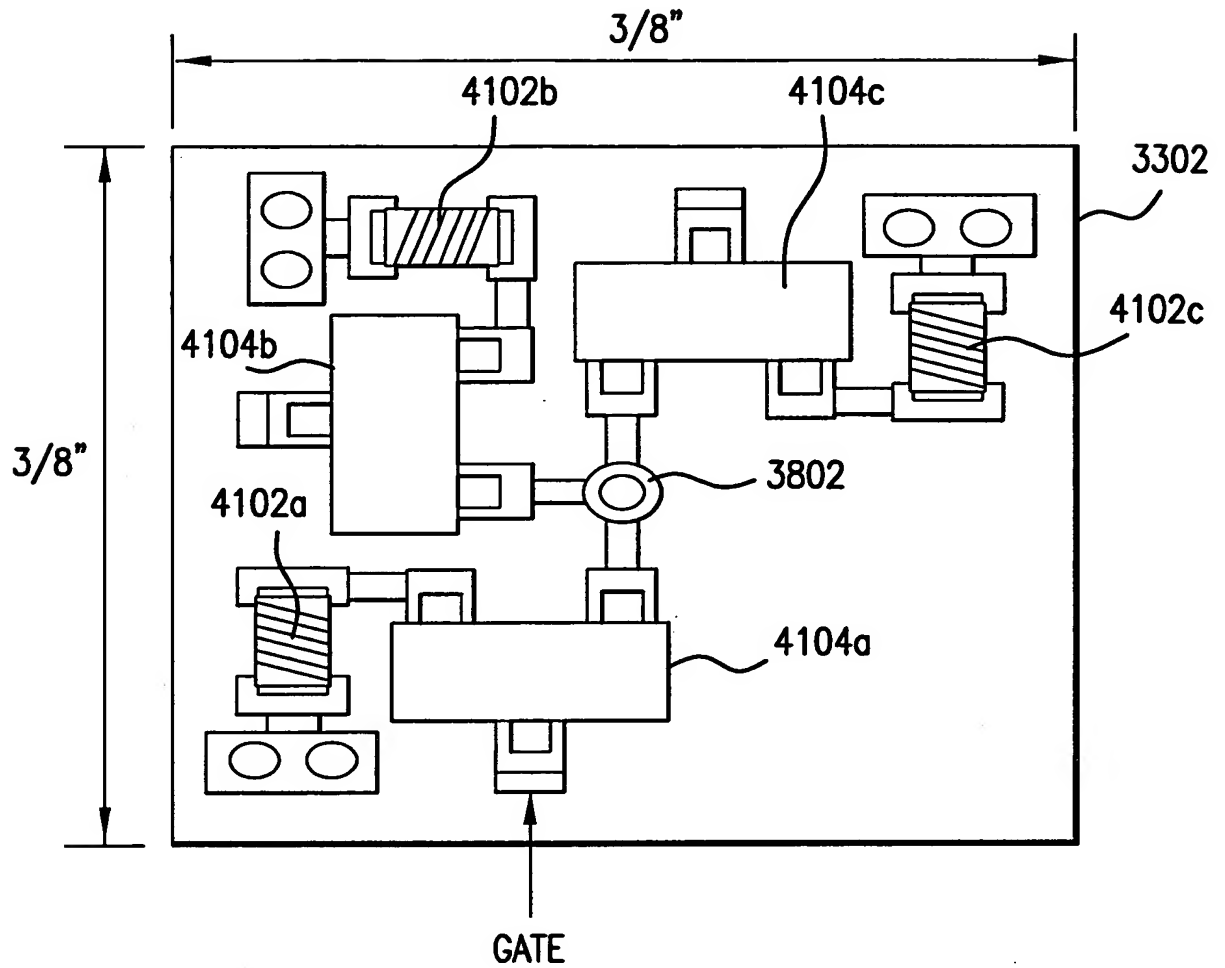


FIG.41

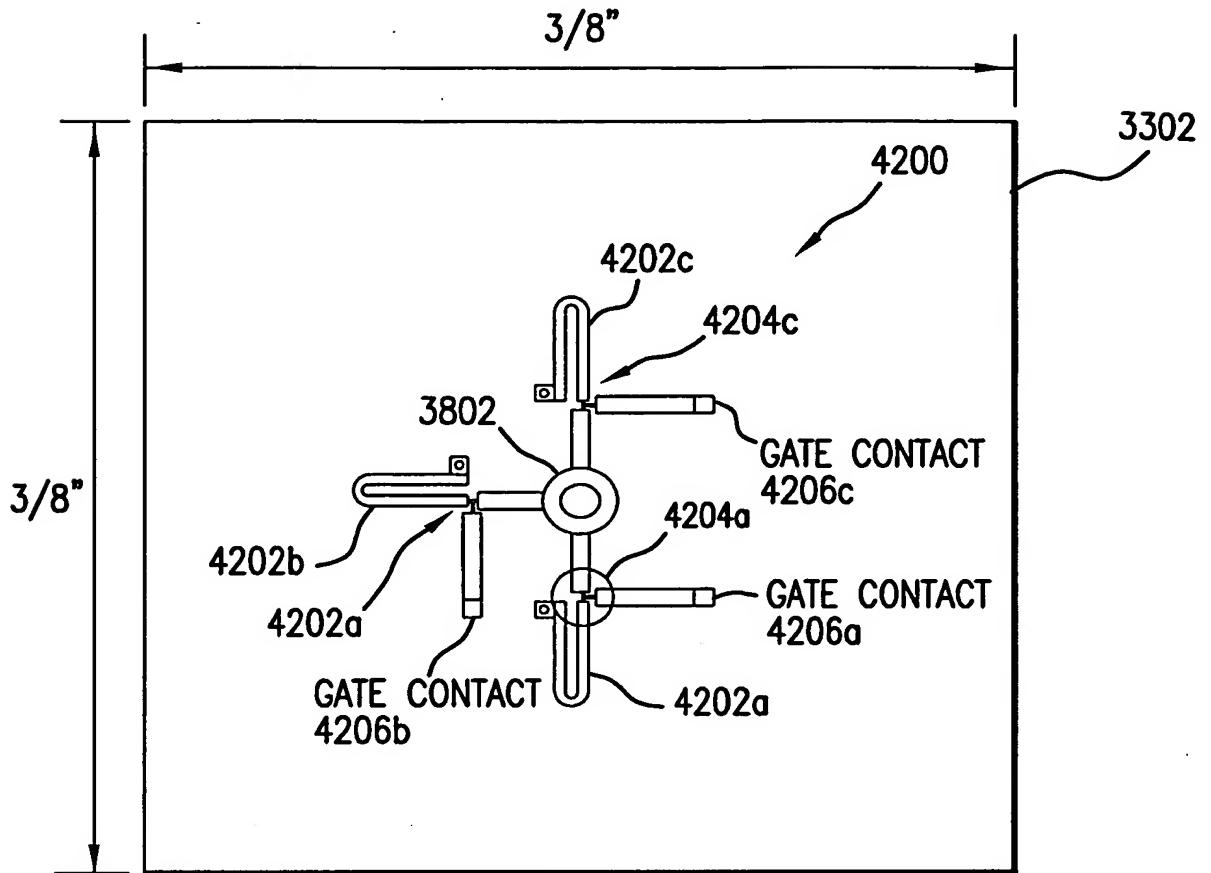


FIG. 42

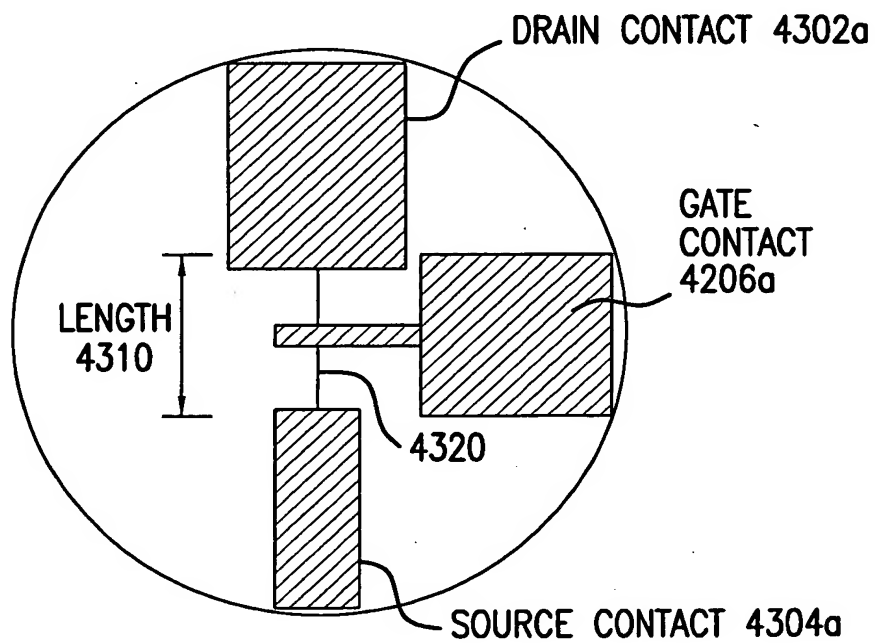


FIG. 43

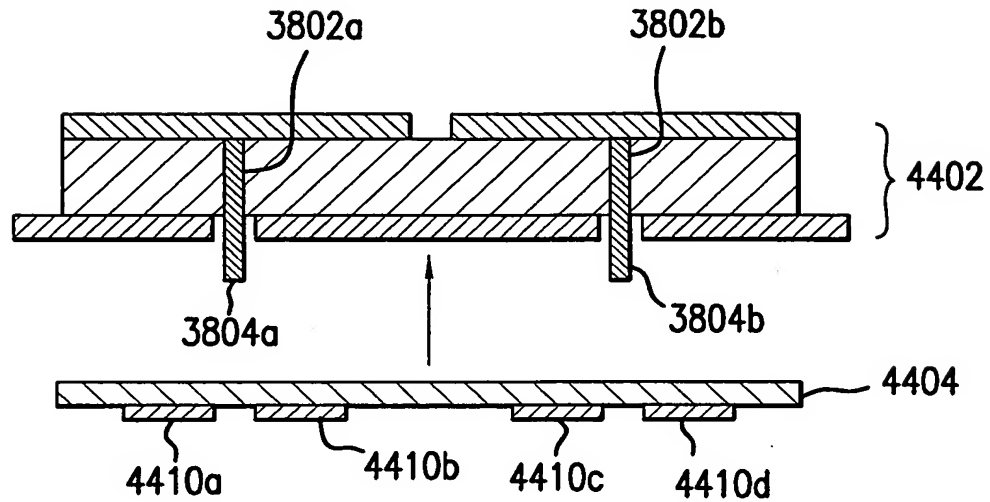


FIG.44

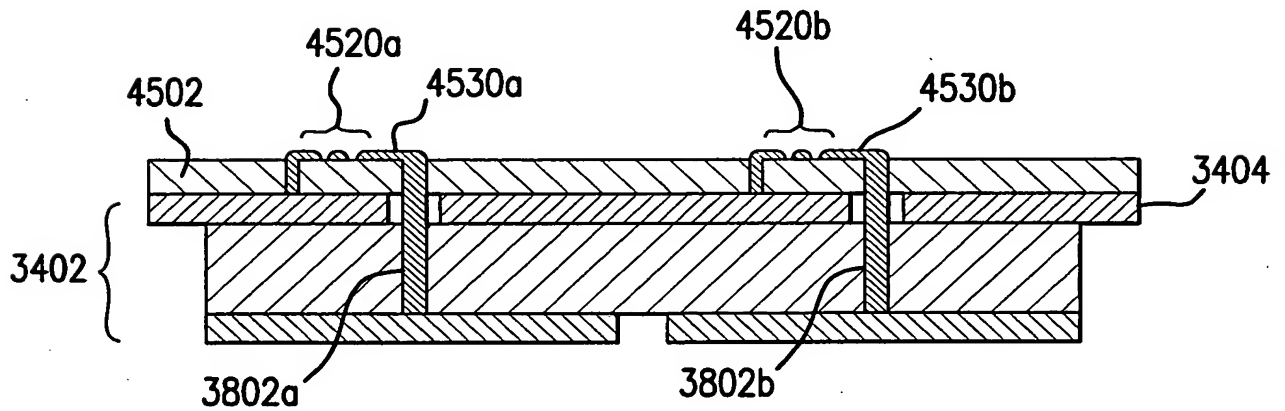


FIG.45

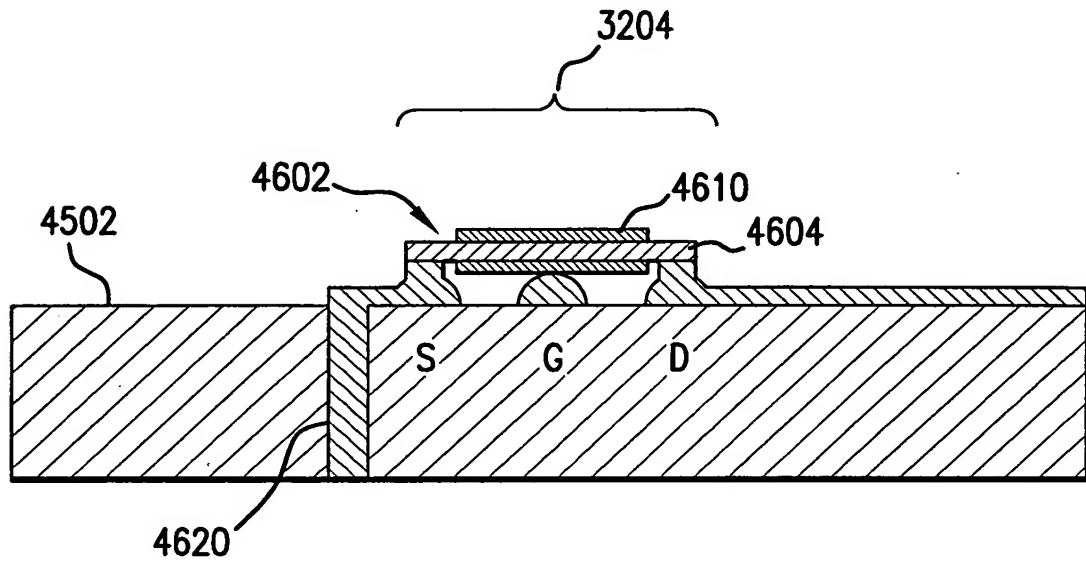


FIG.46

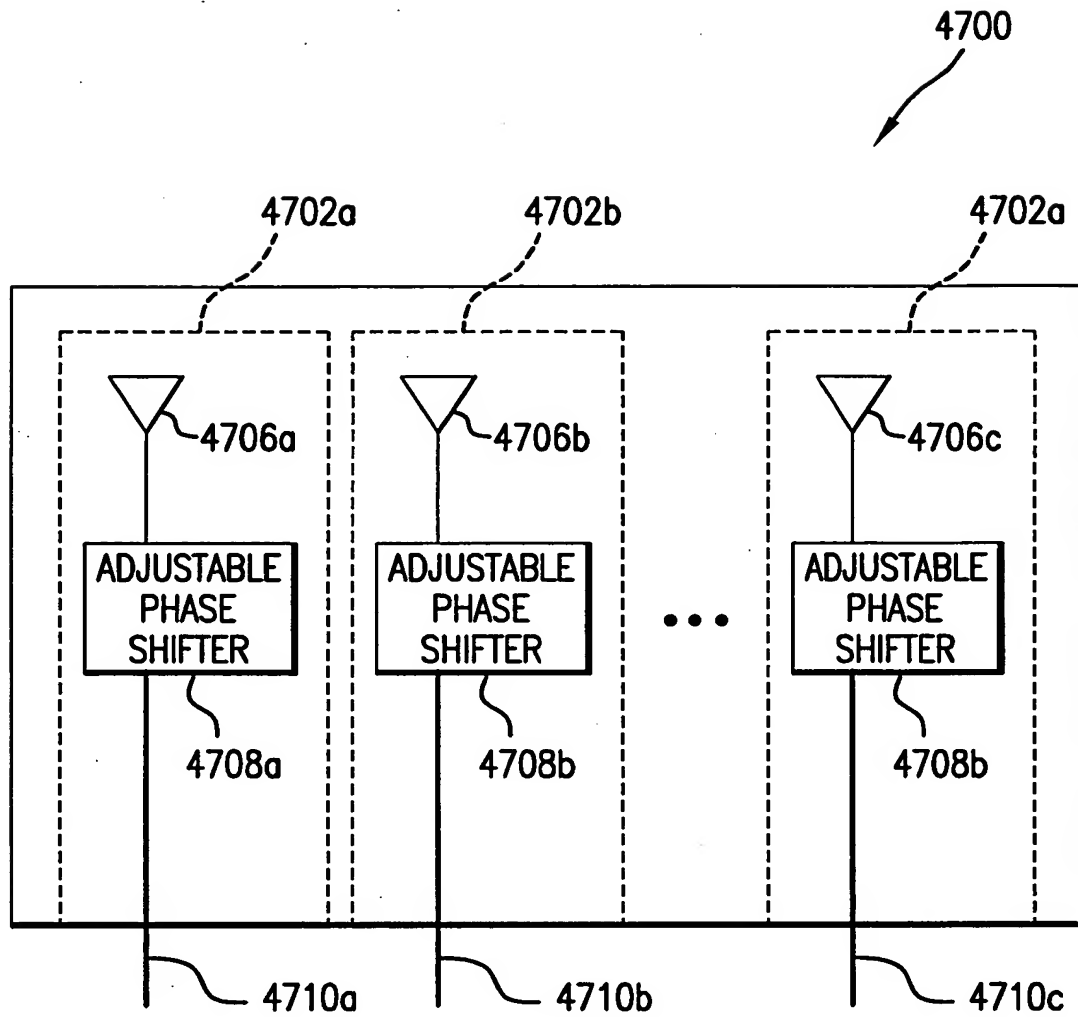


FIG.47

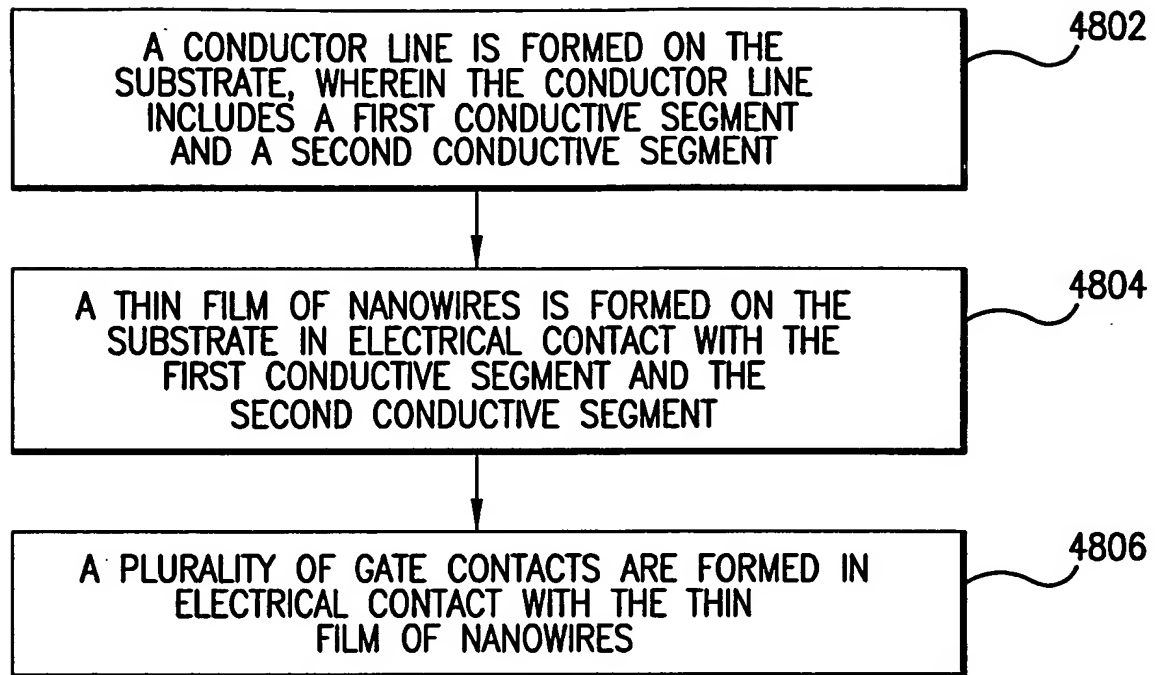


FIG.48

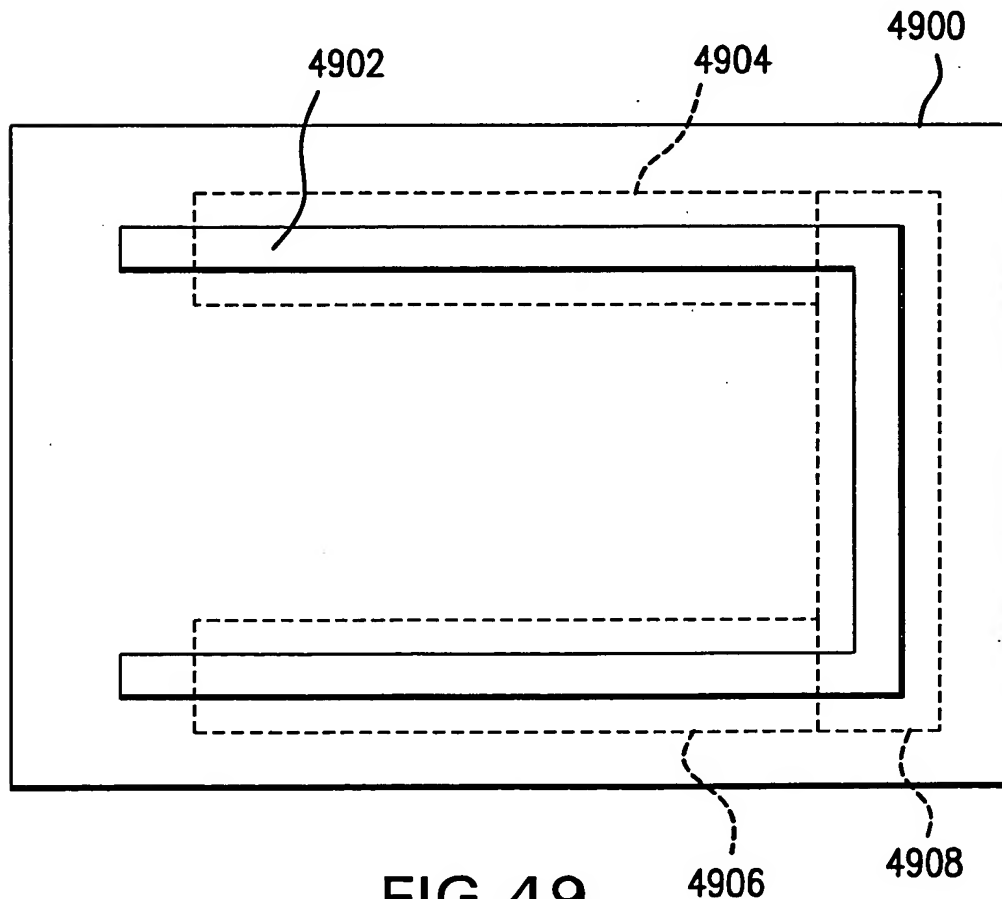


FIG.49

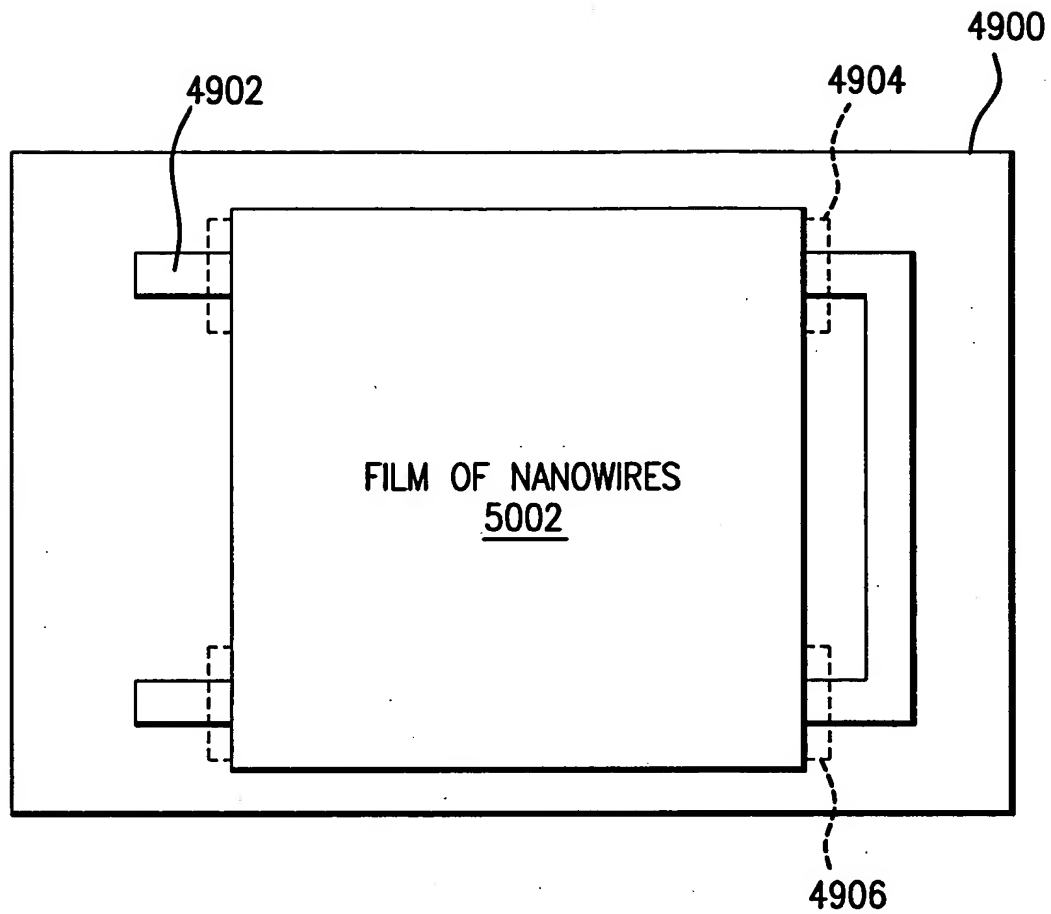


FIG.50

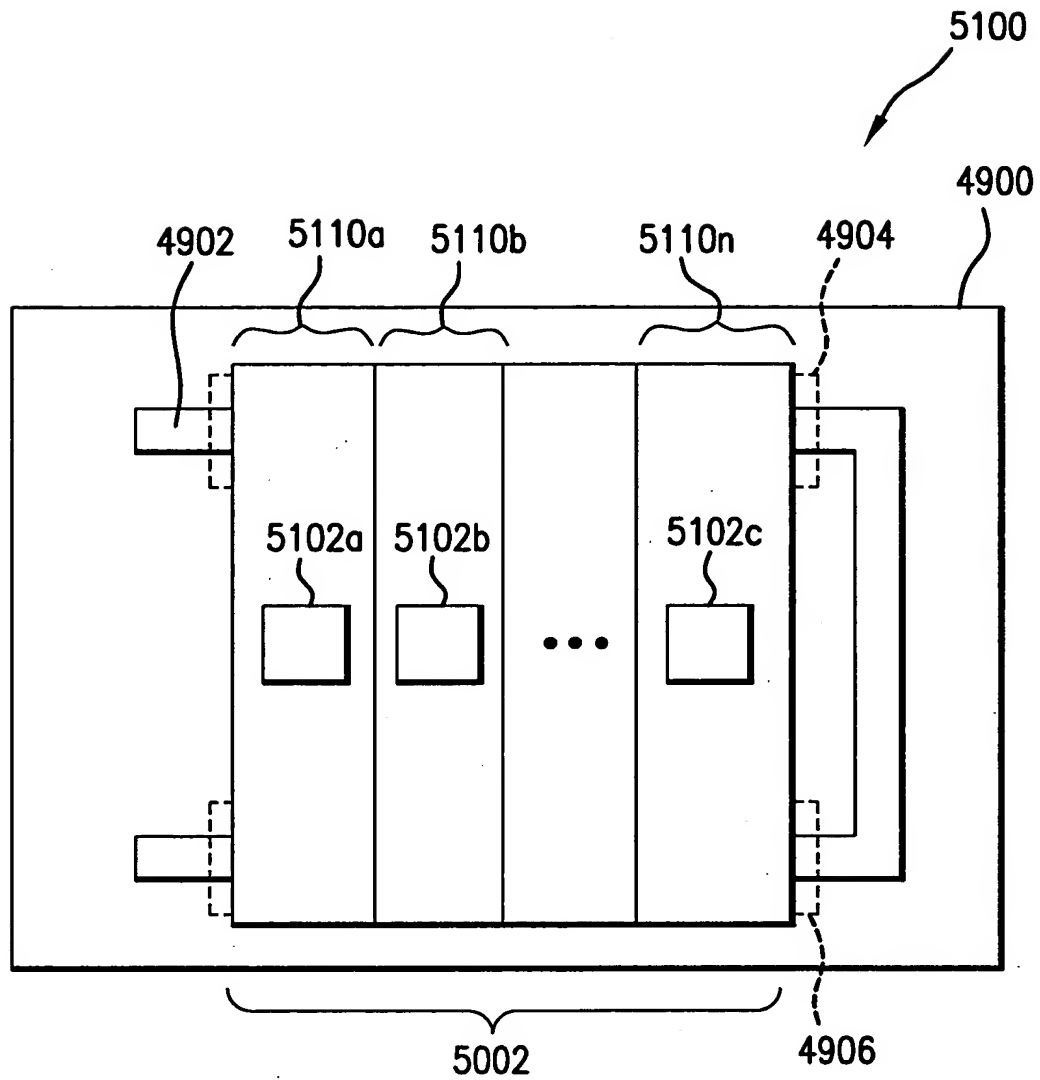


FIG.51

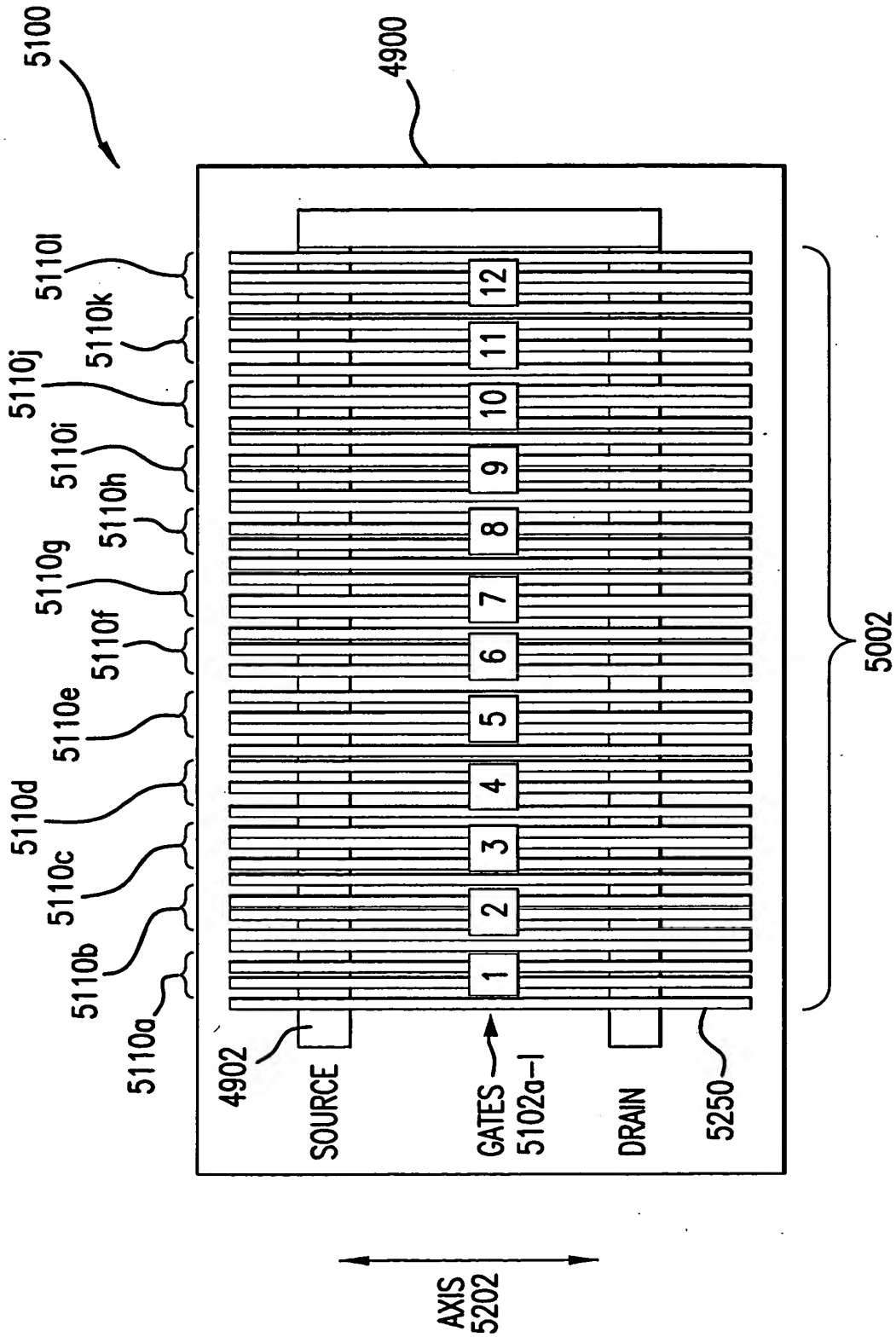


FIG. 52A

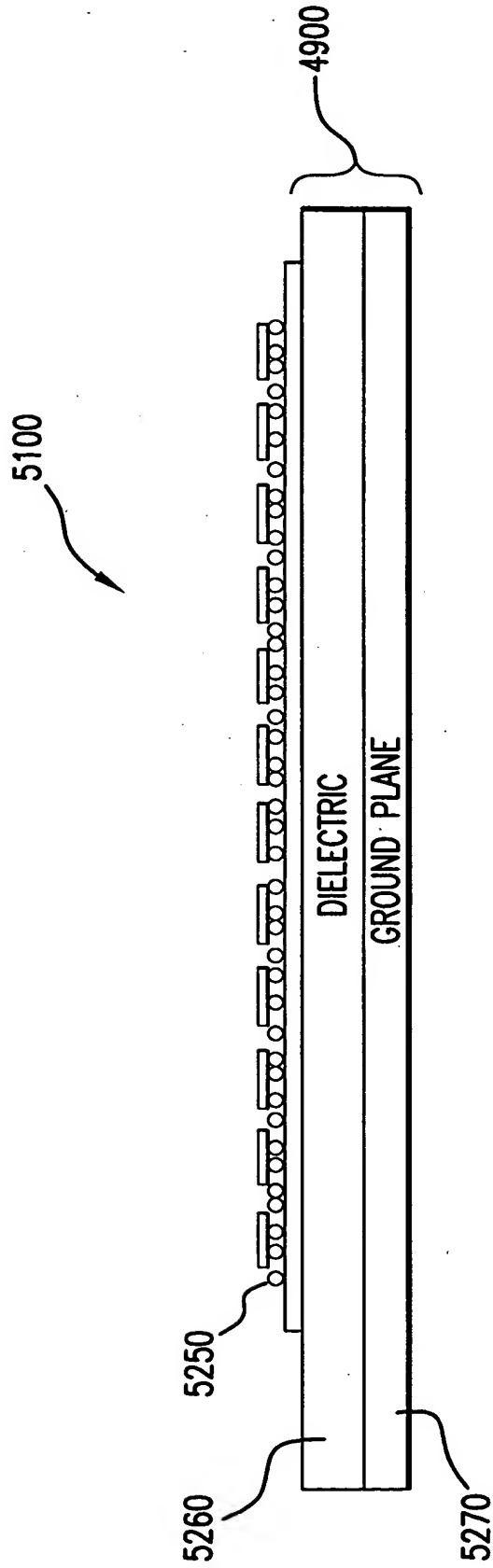


FIG. 52B

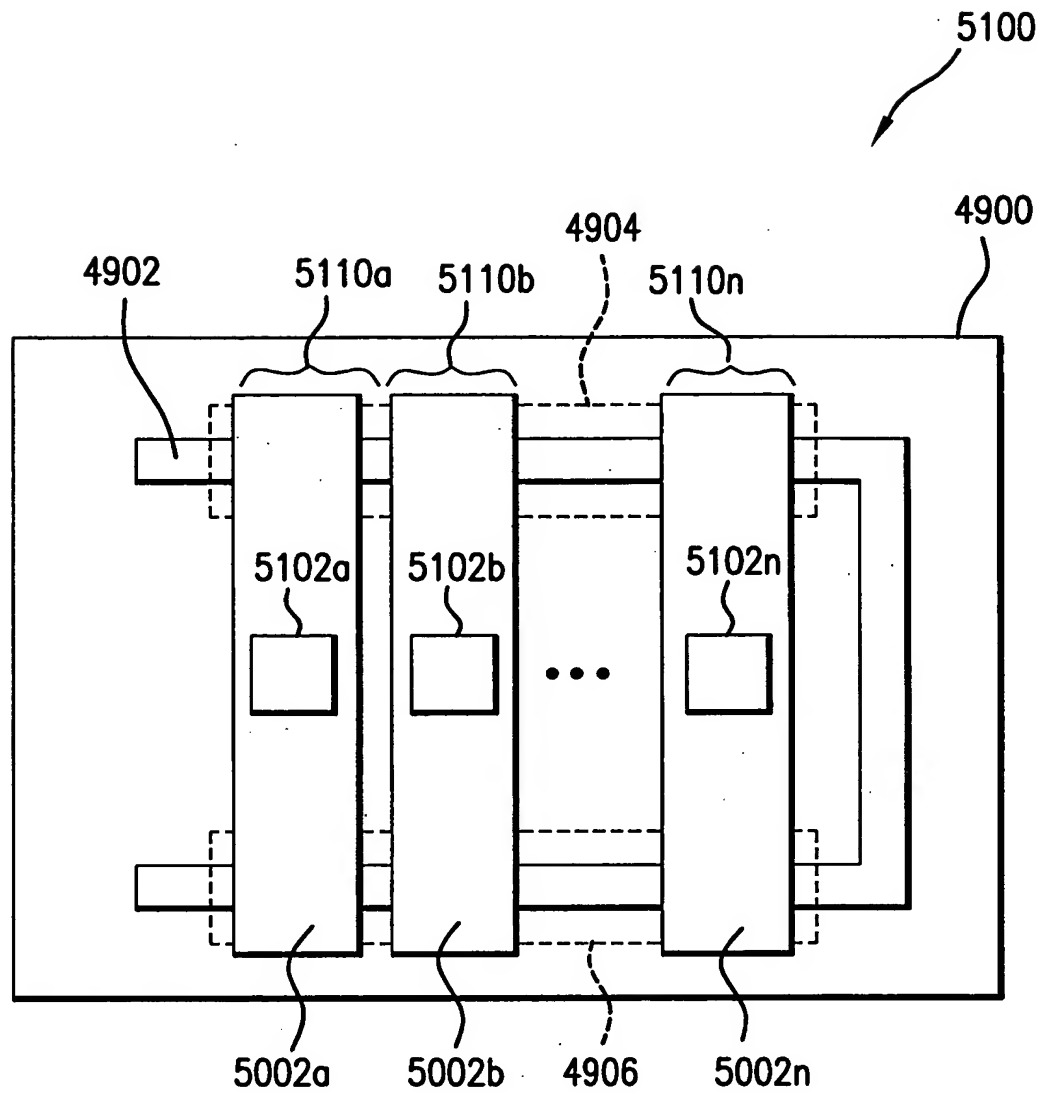


FIG.53

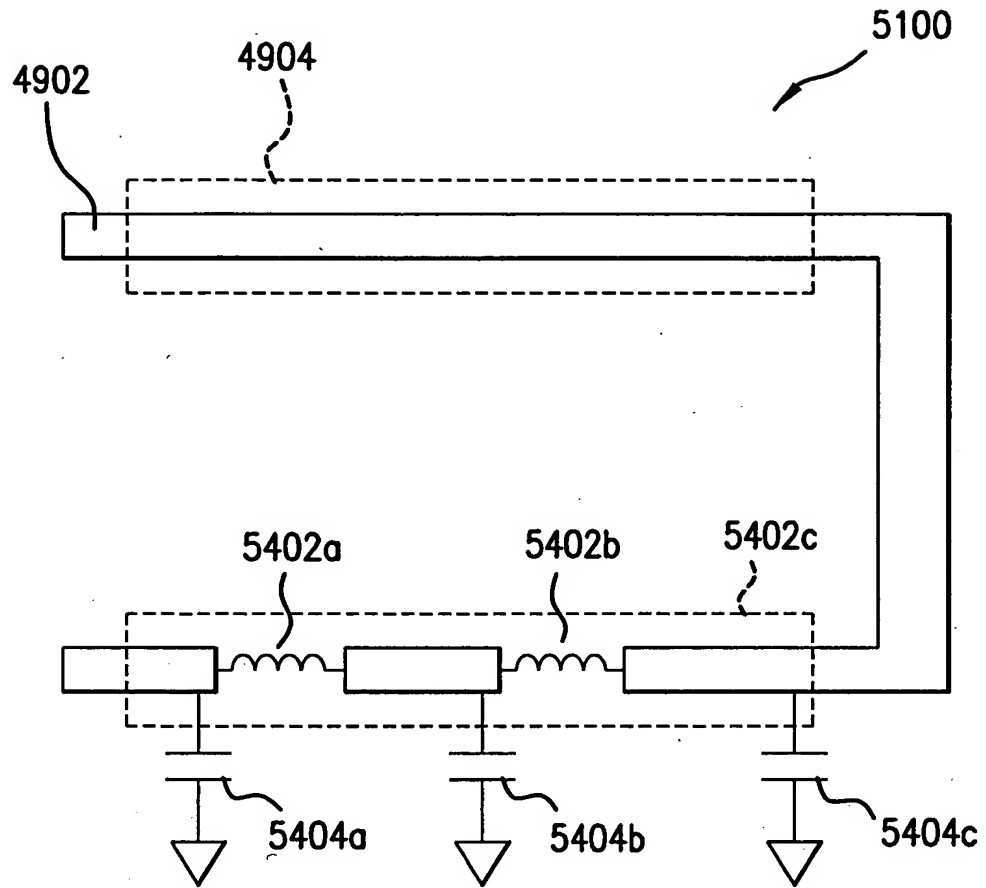


FIG.54

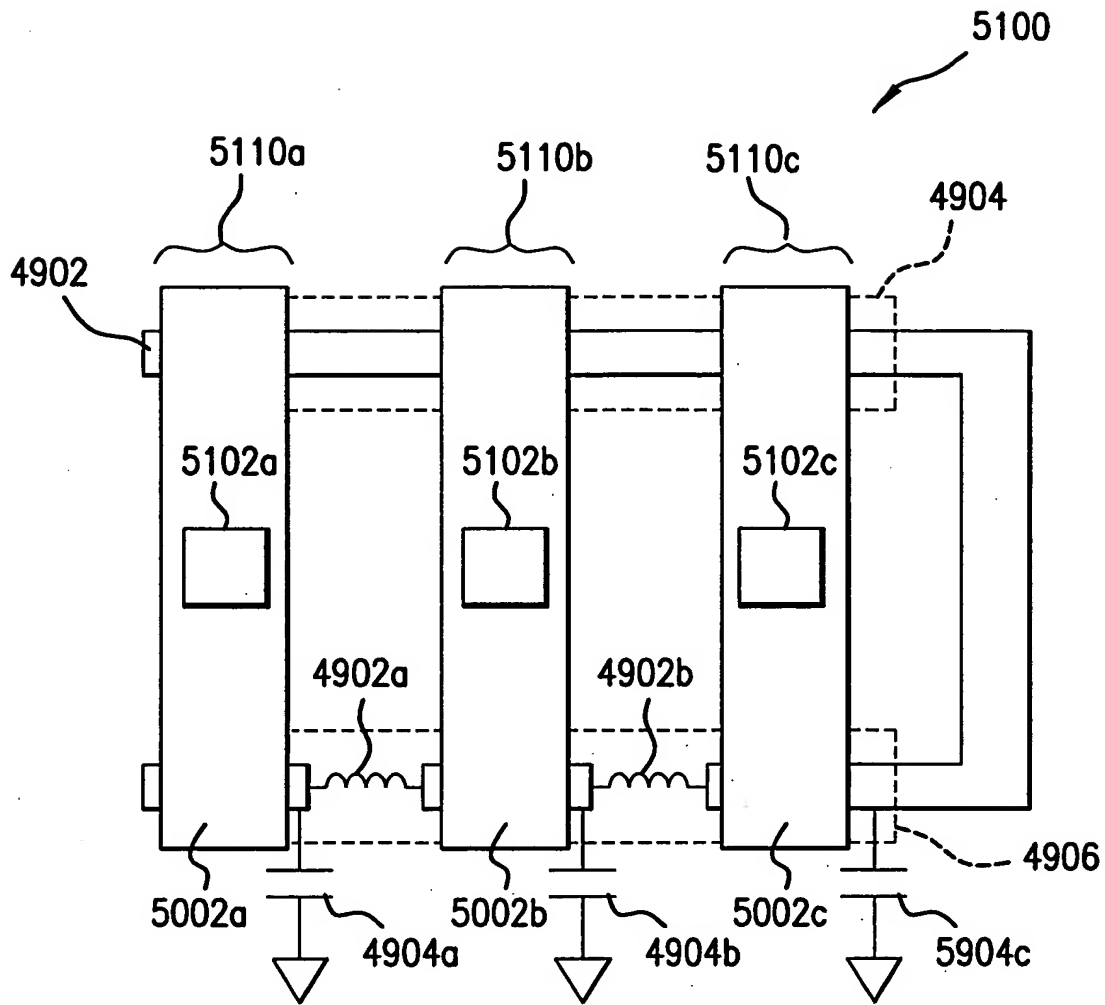


FIG.55

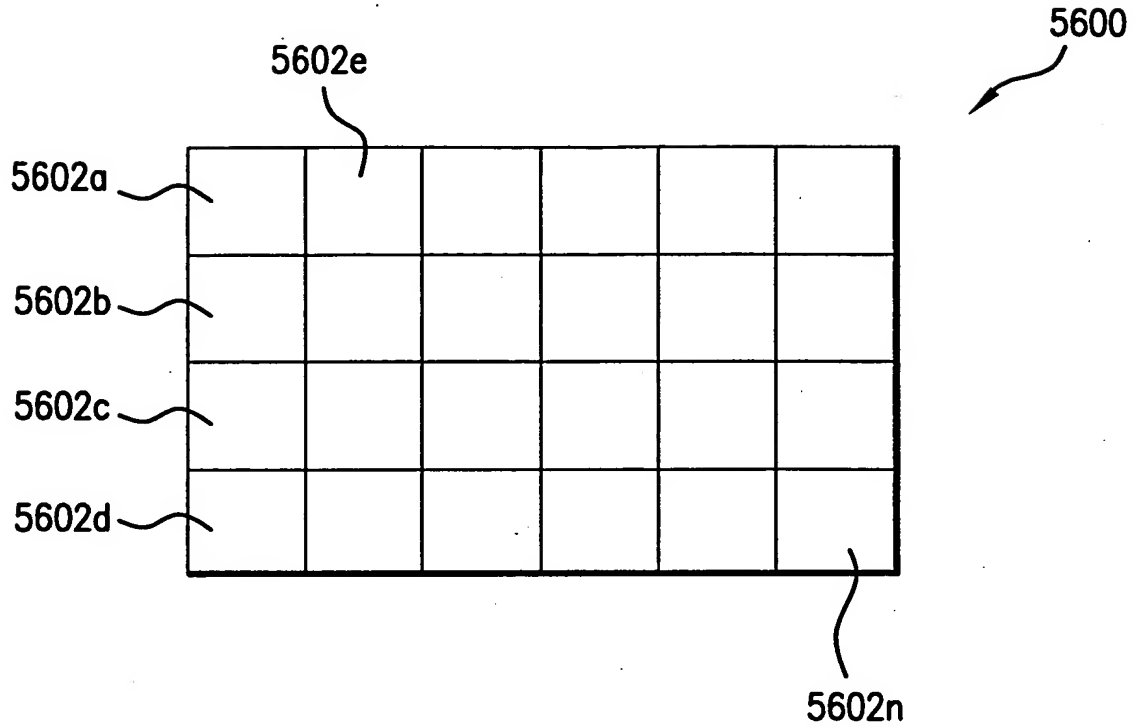


FIG. 56

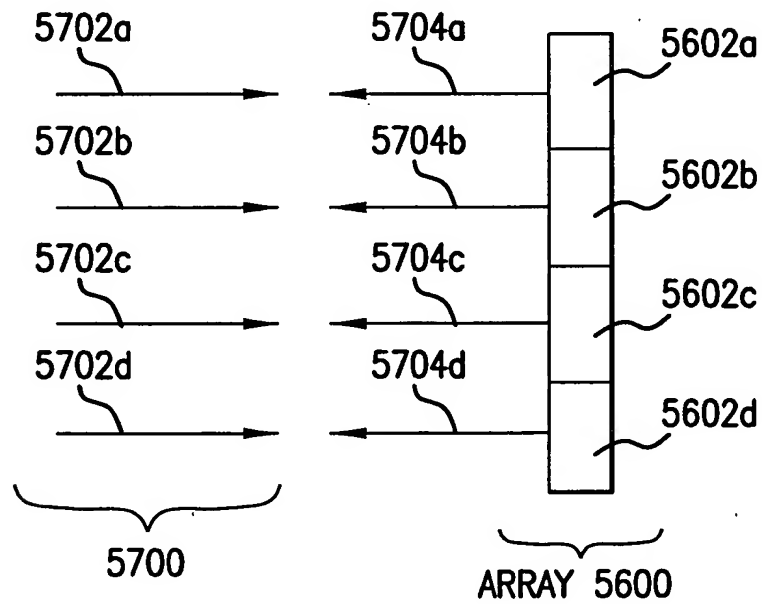


FIG. 57

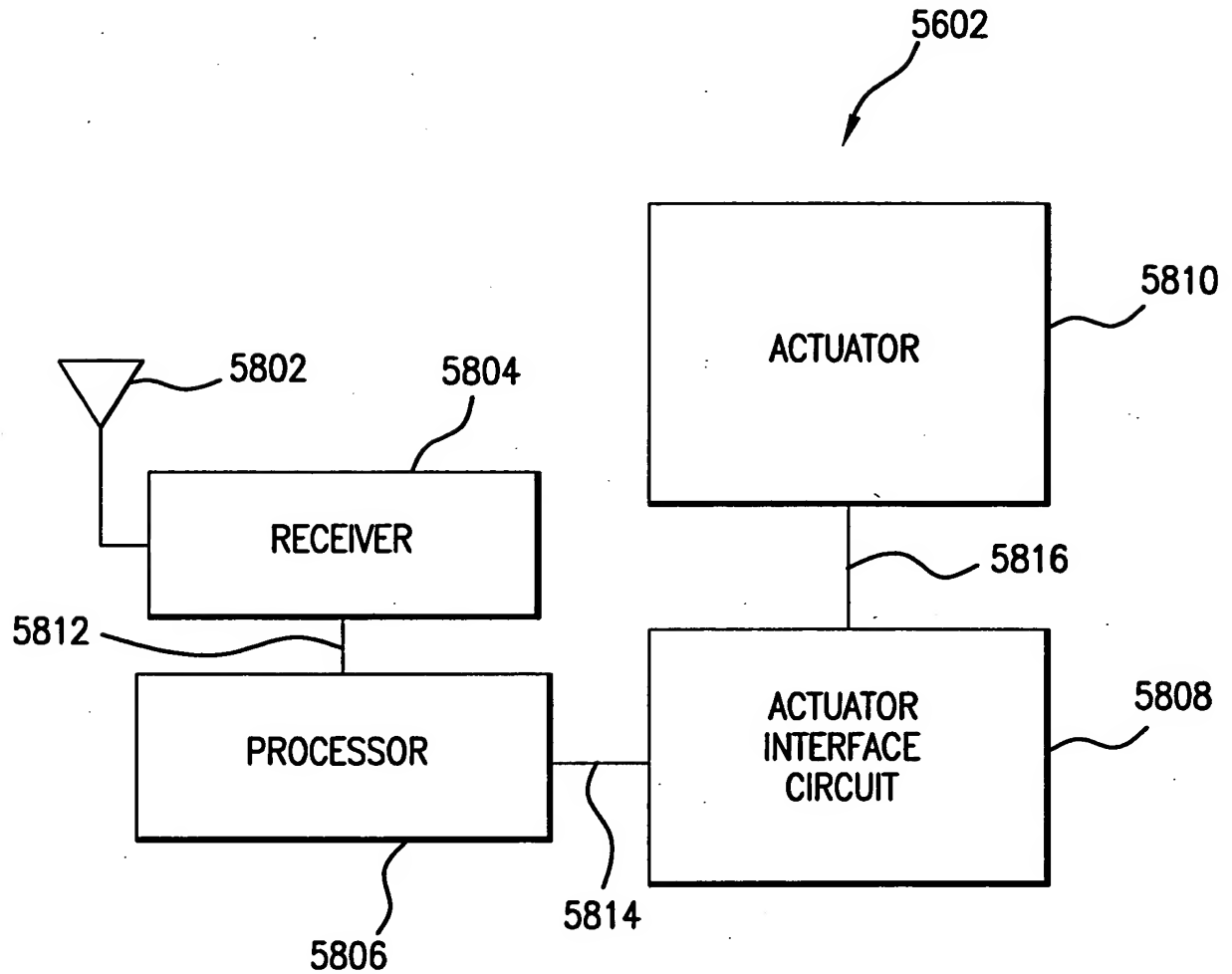


FIG.58

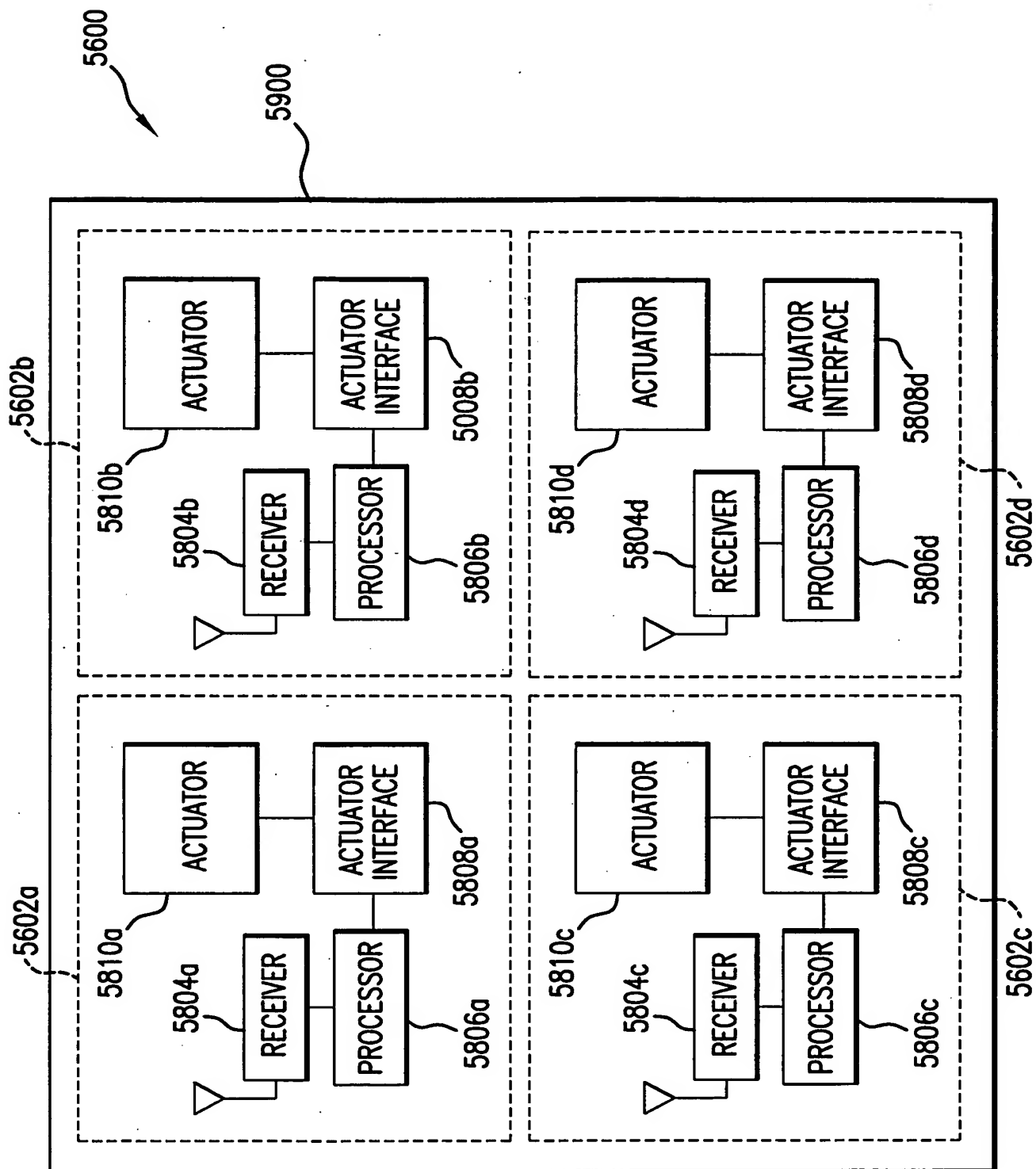


FIG. 59

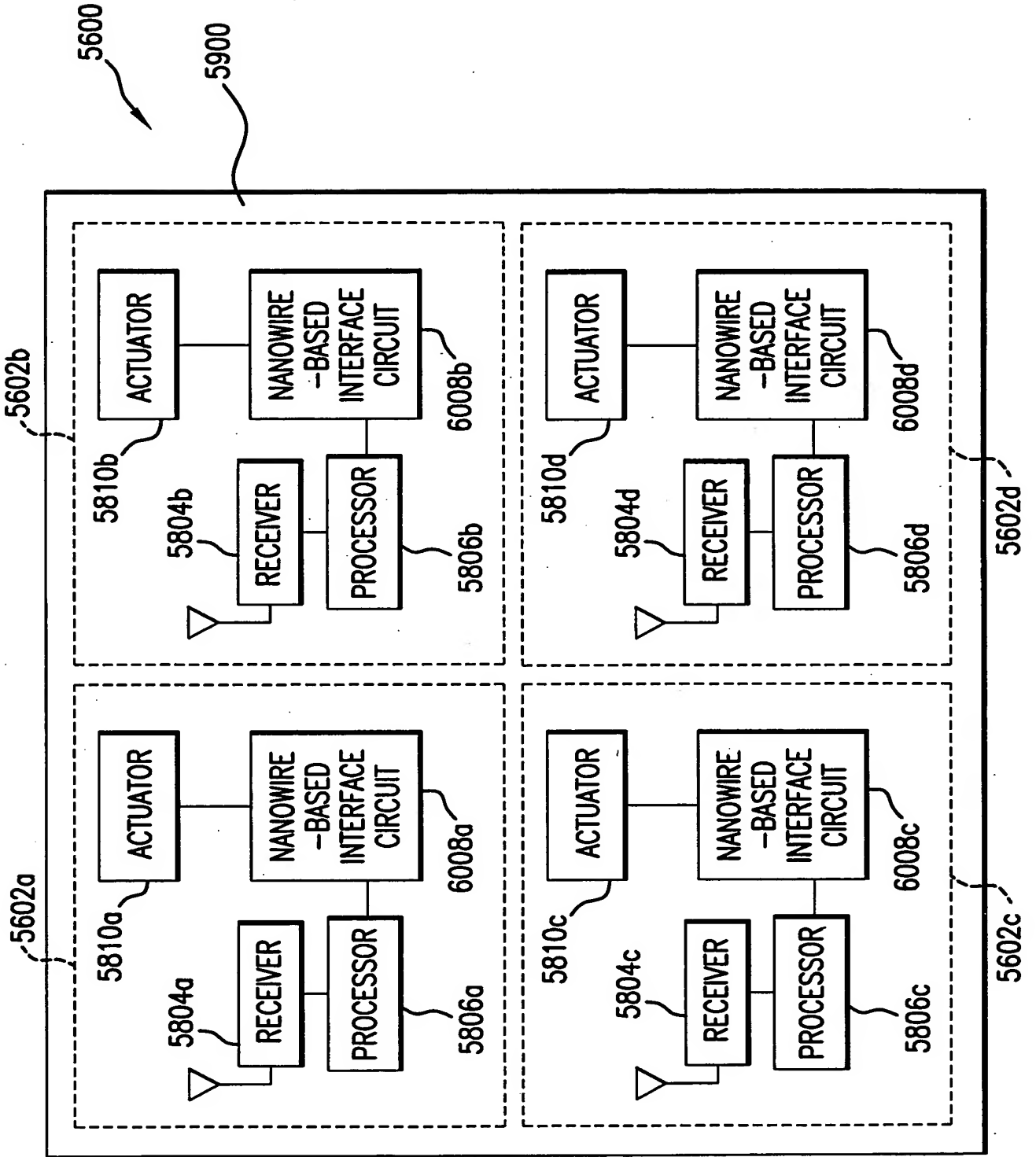


FIG. 60

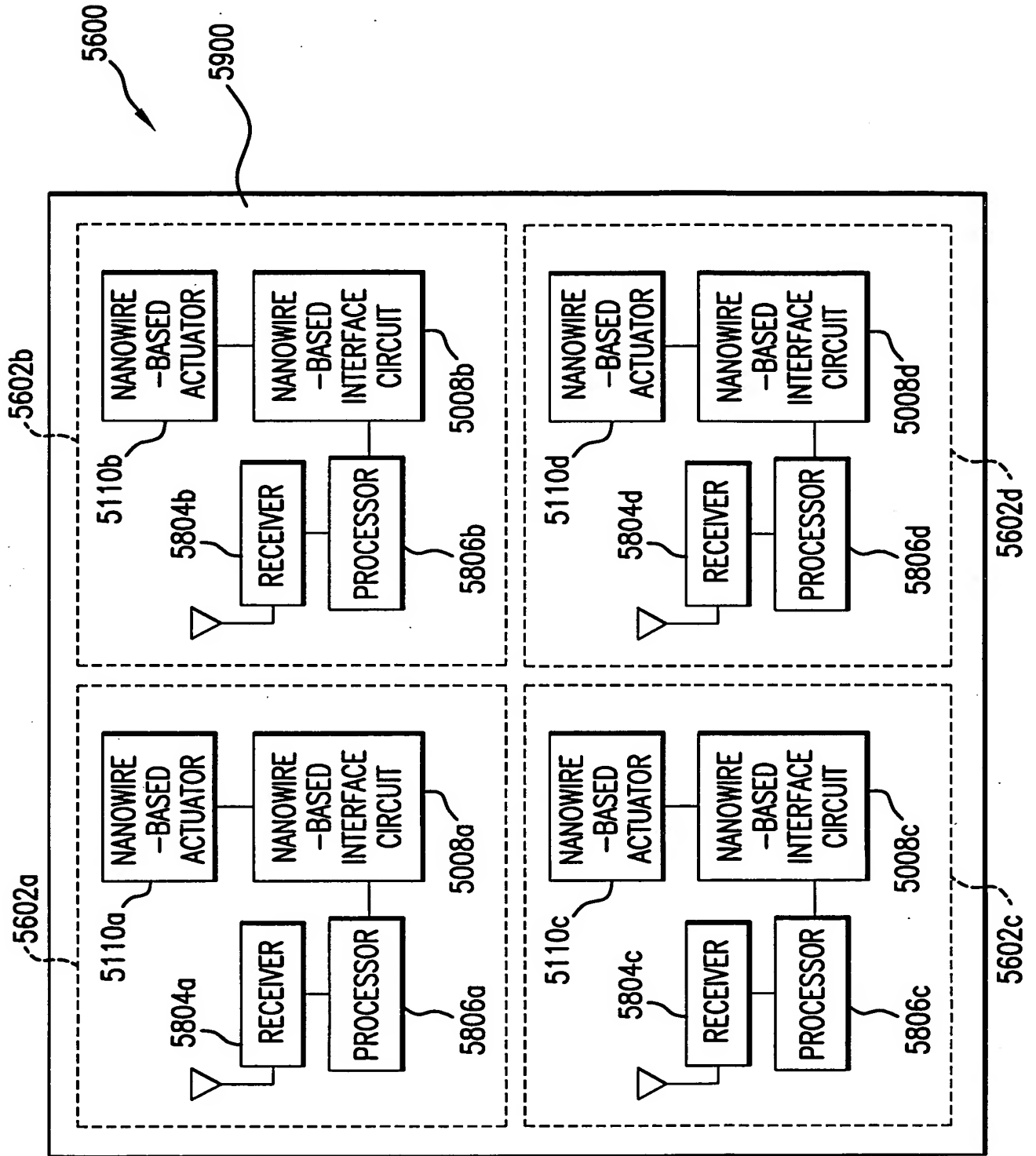


FIG.61

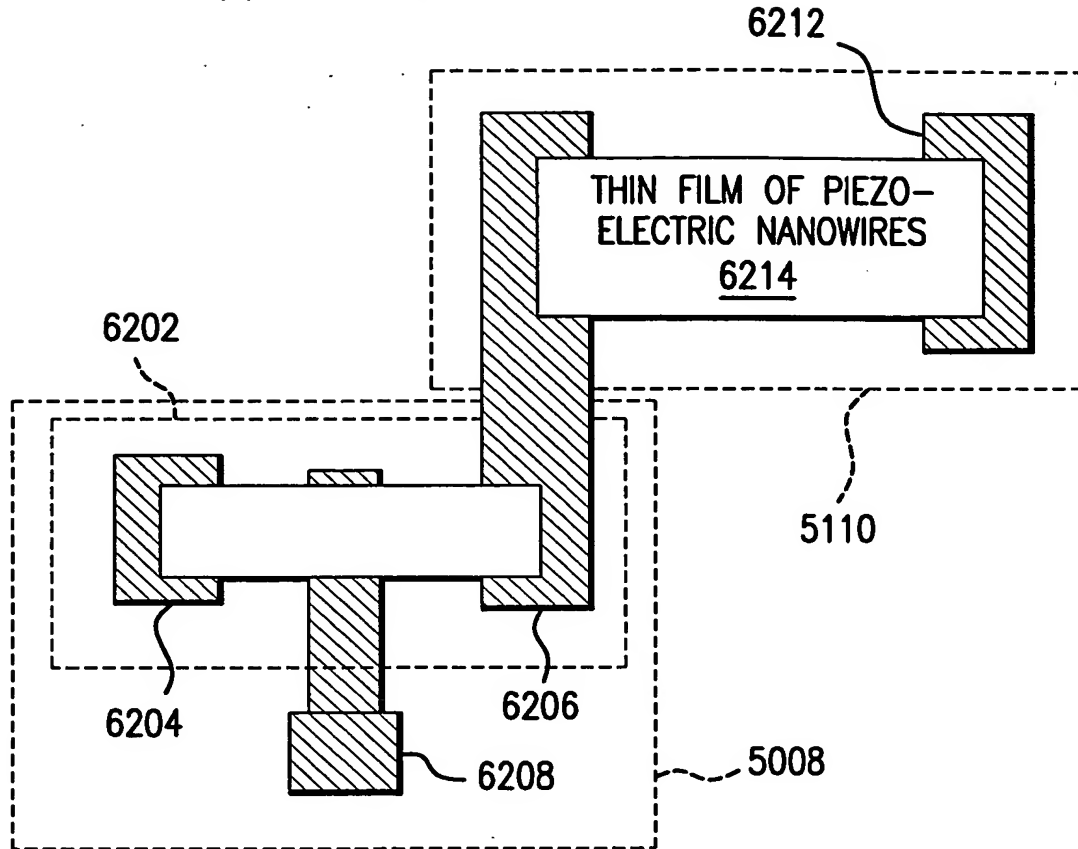


FIG. 62

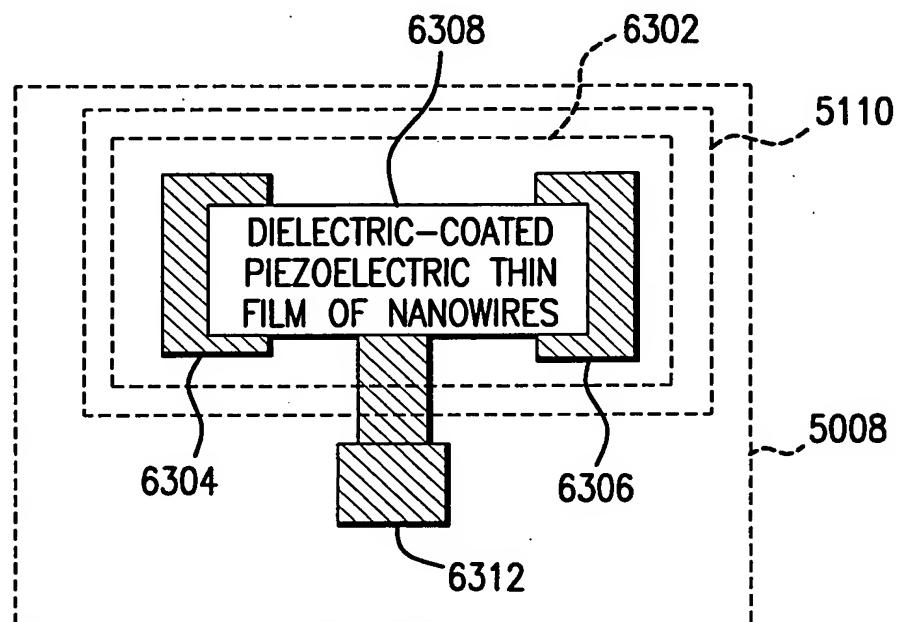


FIG. 63